

SEQUENCE LISTING

<110> Yale University

<120> TREATMENT AND PREVENTION OF CANCER AND PITUITARY
DISORDERS WITH LATS PROTEINS, DERIVATIVES AND
FRAGMENTS, AND LATS KNOCK-OUT ANIMAL MODELS

<130> 6523-020-999

<140> 09/763,334

<141> 2001-02-16

<160> 9

<170> PatentIn Ver. 2.0

<210> 1

<211> 3984

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (231) .. (3620)

<400> 1

```
acctttgggt tgctgggacg gactctggcc gcctcagcgt ccgccctcag gcccgtaggcc 60
gctgtccagg agctctgctc tcccctccag agttaattat ttatattgta aagaatttta 120
acagtcctgg ggacttcctt gaaggatcat tttcactttt gtcagaaga aagctctgga 180
tctatcaaat aaagaagtcc ttcgtgtggg ctacatatat agatgttttc atg aag      236
                                     Met Lys
                                     1
agg agt gaa aag cca gaa gga tat aga caa atg agg cct aag acc ttt      284
Arg Ser Glu Lys Pro Glu Gly Tyr Arg Gln Met Arg Pro Lys Thr Phe
      5                      10                      15
cct gcc agt aac tat act gtc agt agc cgg caa atg tta caa gaa att      332
Pro Ala Ser Asn Tyr Thr Val Ser Ser Arg Gln Met Leu Gln Glu Ile
      20                      25                      30
cgg gaa tcc ctt agg aat tta tct aaa cca tct gat gct gct aag gct      380
Arg Glu Ser Leu Arg Asn Leu Ser Lys Pro Ser Asp Ala Ala Lys Ala
      35                      40                      45                      50
gag cat aac atg agt aaa atg tca acc gaa gat cct cga caa gtc aga      428
Glu His Asn Met Ser Lys Met Ser Thr Glu Asp Pro Arg Gln Val Arg
      55                      60                      65
aat cca ccc aaa ttt ggg acg cat cat aaa gcc ttg cag gaa att cga      476
Asn Pro Pro Lys Phe Gly Thr His His Lys Ala Leu Gln Glu Ile Arg
      70                      75                      80
```

aac tct ctg ctt cca ttt gca aat gaa aca aat tct tct cgg agt act	524
Asn Ser Leu Leu Pro Phe Ala Asn Glu Thr Asn Ser Ser Arg Ser Thr	
85 90 95	
tca gaa gtt aat cca caa atg ctt caa gac ttg caa gct gct gga ttt	572
Ser Glu Val Asn Pro Gln Met Leu Gln Asp Leu Gln Ala Ala Gly Phe	
100 105 110	
gat gag gat atg gtt ata caa gct ctt cag aaa act aac aac aga agt	620
Asp Glu Asp Met Val Ile Gln Ala Leu Gln Lys Thr Asn Asn Arg Ser	
115 120 125 130	
ata gaa gca gca att gaa ttc att agt aaa atg agt tac caa gat cct	668
Ile Glu Ala Ala Ile Glu Phe Ile Ser Lys Met Ser Tyr Gln Asp Pro	
135 140 145	
cga cga gag cag atg gct gca gca gct gcc aga cct att aat gcc agc	716
Arg Arg Glu Gln Met Ala Ala Ala Ala Ala Arg Pro Ile Asn Ala Ser	
150 155 160	
atg aaa cca ggg aat gtg cag caa tca gtt aac cgc aaa cag agc tgg	764
Met Lys Pro Gly Asn Val Gln Gln Ser Val Asn Arg Lys Gln Ser Trp	
165 170 175	
aaa ggt tct aaa gaa tcc tta gtt cct cag agg cat ggc ccg cca cta	812
Lys Gly Ser Lys Glu Ser Leu Val Pro Gln Arg His Gly Pro Pro Leu	
180 185 190	
gga gaa agt gtg gcc tat cat tct gag agt ccc aac tca cag aca gat	860
Gly Glu Ser Val Ala Tyr His Ser Glu Ser Pro Asn Ser Gln Thr Asp	
195 200 205 210	
gta gga aga cct ttg tct gga tct ggt ata tca gca ttt gtt caa gct	908
Val Gly Arg Pro Leu Ser Gly Ser Gly Ile Ser Ala Phe Val Gln Ala	
215 220 225	
cac cct agc aac gga cag aga gtg aac ccc cca cca cca cct caa gta	956
His Pro Ser Asn Gly Gln Arg Val Asn Pro Pro Pro Pro Pro Gln Val	
230 235 240	
agg agt gtt act cct cca cca cct cca aga ggc cag act ccc cct cca	1004
Arg Ser Val Thr Pro Pro Pro Pro Arg Gly Gln Thr Pro Pro Pro	
245 250 255	
aga ggt aca act cca cct ccc cct tca tgg gaa cca aac tct caa aca	1052
Arg Gly Thr Thr Pro Pro Pro Pro Ser Trp Glu Pro Asn Ser Gln Thr	
260 265 270	
aag cgc tat tct gga aac atg gaa tac gta atc tcc cga atc tct cct	1100
Lys Arg Tyr Ser Gly Asn Met Glu Tyr Val Ile Ser Arg Ile Ser Pro	
275 280 285 290	
gtc cca cct ggg gca tgg caa gag ggc tat cct cca cca cct ctc aac	1148
Val Pro Pro Gly Ala Trp Gln Glu Gly Tyr Pro Pro Pro Pro Leu Asn	
295 300 305	

act tcc ccc atg aat cct cct aat caa gga cag aga ggc att agt tct	1196
Thr Ser Pro Met Asn Pro Pro Asn Gln Gly Gln Arg Gly Ile Ser Ser	
310 315 320	
gtt cct gtt ggc aga caa cca atc atc atg cag agt tct agc aaa ttt	1244
Val Pro Val Gly Arg Gln Pro Ile Ile Met Gln Ser Ser Ser Lys Phe	
325 330 335	
aac ttt cca tca ggg aga cct gga atg cag aat ggt act gga caa act	1292
Asn Phe Pro Ser Gly Arg Pro Gly Met Gln Asn Gly Thr Gly Gln Thr	
340 345 350	
gat ttc atg ata cac caa aat gtt gtc cct gct ggc act gtg aat cgg	1340
Asp Phe Met Ile His Gln Asn Val Val Pro Ala Gly Thr Val Asn Arg	
355 360 365 370	
cag cca cca cct cca tat cct ctg aca gca gct aat gga caa agc cct	1388
Gln Pro Pro Pro Pro Tyr Pro Leu Thr Ala Ala Asn Gly Gln Ser Pro	
375 380 385	
tct gct tta caa aca ggg gga tct gct gct cct tcg tca tat aca aat	1436
Ser Ala Leu Gln Thr Gly Gly Ser Ala Ala Pro Ser Ser Tyr Thr Asn	
390 395 400	
gga agt att cct cag tct atg atg gtg cca aac aga aat agt cat aac	1484
Gly Ser Ile Pro Gln Ser Met Met Val Pro Asn Arg Asn Ser His Asn	
405 410 415	
atg gaa cta tat aac att agt gta cct gga ctg caa aca aat tgg cct	1532
Met Glu Leu Tyr Asn Ile Ser Val Pro Gly Leu Gln Thr Asn Trp Pro	
420 425 430	
cag tca tct tct gct cca gcc cag tca tcc ccg agc agt ggg cat gaa	1580
Gln Ser Ser Ser Ala Pro Ala Gln Ser Ser Pro Ser Ser Gly His Glu	
435 440 445 450	
atc cct aca tgg caa cct aac ata cca gtg agg tca aat tct ttt aat	1628
Ile Pro Thr Trp Gln Pro Asn Ile Pro Val Arg Ser Asn Ser Phe Asn	
455 460 465	
aac cca tta gga aat aga gca agt cac tct gct aat tct cag cct tct	1676
Asn Pro Leu Gly Asn Arg Ala Ser His Ser Ala Asn Ser Gln Pro Ser	
470 475 480	
gct aca aca gtc act gca att aca cca gct cct att caa cag cct gtg	1724
Ala Thr Thr Val Thr Ala Ile Thr Pro Ala Pro Ile Gln Gln Pro Val	
485 490 495	
aaa agt atg cgt gta tta aaa cca gag cta cag act gct tta gca cct	1772
Lys Ser Met Arg Val Leu Lys Pro Glu Leu Gln Thr Ala Leu Ala Pro	
500 505 510	
aca cac cct tct tgg ata cca cag cca att caa act gtt caa ccc agt	1820
Thr His Pro Ser Trp Ile Pro Gln Pro Ile Gln Thr Val Gln Pro Ser	
515 520 525 530	

cct ttt cct gag gga acc gct tca aat gtg act gtg atg cca cct gtt	1868
Pro Phe Pro Glu Gly Thr Ala Ser Asn Val Thr Val Met Pro Pro Val	
535 540 545	
gct gaa gct cca aac tat caa gga cca cca cca ccc tac cca aaa cat	1916
Ala Glu Ala Pro Asn Tyr Gln Gly Pro Pro Pro Pro Tyr Pro Lys His	
550 555 560	
ctg ctg cac caa aac cca tct gtt cct cca tac gag tca atc agt aag	1964
Leu Leu His Gln Asn Pro Ser Val Pro Pro Tyr Glu Ser Ile Ser Lys	
565 570 575	
cct agc aaa gag gat cag cca agc ttg ccc aag gaa gat gag agt gaa	2012
Pro Ser Lys Glu Asp Gln Pro Ser Leu Pro Lys Glu Asp Glu Ser Glu	
580 585 590	
aag agt tat gaa aat gtt gat agt ggg gat aaa gaa aag aaa cag att	2060
Lys Ser Tyr Glu Asn Val Asp Ser Gly Asp Lys Glu Lys Lys Gln Ile	
595 600 605 610	
aca act tca cct att act gtt agg aaa aac aag aaa gat gaa gag cga	2108
Thr Thr Ser Pro Ile Thr Val Arg Lys Asn Lys Lys Asp Glu Glu Arg	
615 620 625	
agg gaa tct cgt att caa agt tat tct cct caa gca ttt aaa ttc ttt	2156
Arg Glu Ser Arg Ile Gln Ser Tyr Ser Pro Gln Ala Phe Lys Phe Phe	
630 635 640	
atg gag caa cat gta gaa aat gta ctc aaa tct cat cag cag cgt cta	2204
Met Glu Gln His Val Glu Asn Val Leu Lys Ser His Gln Gln Arg Leu	
645 650 655	
cat cgt aaa aaa caa tta gag aat gaa atg atg cgg gtt gga tta tct	2252
His Arg Lys Lys Gln Leu Glu Asn Glu Met Met Arg Val Gly Leu Ser	
660 665 670	
caa gat gcc cag gat caa atg aga aag atg ctt tgc caa aaa gaa tct	2300
Gln Asp Ala Gln Asp Gln Met Arg Lys Met Leu Cys Gln Lys Glu Ser	
675 680 685 690	
aat tac atc cgt ctt aaa agg gct aaa atg gac aag tct atg ttt gtg	2348
Asn Tyr Ile Arg Leu Lys Arg Ala Lys Met Asp Lys Ser Met Phe Val	
695 700 705	
aag ata aag aca cta gga ata gga gca ttt ggt gaa gtc tgt cta gca	2396
Lys Ile Lys Thr Leu Gly Ile Gly Ala Phe Gly Glu Val Cys Leu Ala	
710 715 720	
aga aaa gta gat act aag gct ttg tat gca aca aaa act ctt cga aag	2444
Arg Lys Val Asp Thr Lys Ala Leu Tyr Ala Thr Lys Thr Leu Arg Lys	
725 730 735	
aaa gat gtt ctt ctt cga aat caa gtc gct cat gtt aag gct gag aga	2492
Lys Asp Val Leu Leu Arg Asn Gln Val Ala His Val Lys Ala Glu Arg	
740 745 750	

gat atc ctg gct gaa gct gac aat gaa tgg gta gtt cgt cta tat tat	2540
Asp Ile Leu Ala Glu Ala Asp Asn Glu Trp Val Val Arg Leu Tyr Tyr	
755 760 765 770	
tca ttc caa gat aag gac aat tta tac ttt gta atg gac tac att cct	2588
Ser Phe Gln Asp Lys Asp Asn Leu Tyr Phe Val Met Asp Tyr Ile Pro	
775 780 785	
ggg ggt gat atg atg agc cta tta att aga atg ggc atc ttt cca gaa	2636
Gly Gly Asp Met Met Ser Leu Leu Ile Arg Met Gly Ile Phe Pro Glu	
790 795 800	
agt ctg gca cga ttc tac ata gca gaa ctt acc tgt gca gtt gaa agt	2684
Ser Leu Ala Arg Phe Tyr Ile Ala Glu Leu Thr Cys Ala Val Glu Ser	
805 810 815	
gtt cat aaa atg ggt ttt att cat aga gat att aaa cct gat aat att	2732
Val His Lys Met Gly Phe Ile His Arg Asp Ile Lys Pro Asp Asn Ile	
820 825 830	
ttg att gat cgt gat ggt cat att aaa ttg act gac ttt ggc ctc tgc	2780
Leu Ile Asp Arg Asp Gly His Ile Lys Leu Thr Asp Phe Gly Leu Cys	
835 840 845 850	
act ggc ttc aga tgg aca cac gat tct aag tac tat cag agt ggt gac	2828
Thr Gly Phe Arg Trp Thr His Asp Ser Lys Tyr Tyr Gln Ser Gly Asp	
855 860 865	
cat cca cgg caa gat agc atg gat ttc agt aat gaa tgg ggg gat ccc	2876
His Pro Arg Gln Asp Ser Met Asp Phe Ser Asn Glu Trp Gly Asp Pro	
870 875 880	
tca agc tgt cga tgt gga gac aga ctg aag cca tta gag cgg aga gct	2924
Ser Ser Cys Arg Cys Gly Asp Arg Leu Lys Pro Leu Glu Arg Arg Ala	
885 890 895	
gca cgc cag cac cag cga tgt cta gca cat tct ttg gtt ggg act ccc	2972
Ala Arg Gln His Gln Arg Cys Leu Ala His Ser Leu Val Gly Thr Pro	
900 905 910	
aat tat att gca cct gaa gtg ttg cta cga aca gga tac aca cag ttg	3020
Asn Tyr Ile Ala Pro Glu Val Leu Leu Arg Thr Gly Tyr Thr Gln Leu	
915 920 925 930	
tgt gat tgg tgg agt gtt ggt gtt att ctt ttt gaa atg ttg gtg gga	3068
Cys Asp Trp Trp Ser Val Gly Val Ile Leu Phe Glu Met Leu Val Gly	
935 940 945	
caa cct cct ttc ttg gca caa aca cca tta gaa aca caa atg aag gtt	3116
Gln Pro Pro Phe Leu Ala Gln Thr Pro Leu Glu Thr Gln Met Lys Val	
950 955 960	
atc aac tgg caa aca tct ctt cac att cca cca caa gct aaa ctc agt	3164
Ile Asn Trp Gln Thr Ser Leu His Ile Pro Pro Gln Ala Lys Leu Ser	
965 970 975	

cct gaa gct tct gat ctt att att aaa ctt tgc cga gga ccc gaa gat 3212
Pro Glu Ala Ser Asp Leu Ile Ile Lys Leu Cys Arg Gly Pro Glu Asp
980 985 990

cgc tta ggc aag aat ggt gct gat gaa ata aaa gct cat cca ttt ttt 3260
Arg Leu Gly Lys Asn Gly Ala Asp Glu Ile Lys Ala His Pro Phe Phe
995 1000 1005 1010

aaa aca att gac ttc tcc agt gac ctg aga cag cag tct gct tca tac 3308
Lys Thr Ile Asp Phe Ser Ser Asp Leu Arg Gln Gln Ser Ala Ser Tyr
1015 1020 1025

att cct aaa atc aca cac cca aca gat aca tca aat ttt gat cct gtt 3356
Ile Pro Lys Ile Thr His Pro Thr Asp Thr Ser Asn Phe Asp Pro Val
1030 1035 1040

gat cct gat aaa tta tgg agt gat gat aac gag gaa gaa aat gta aat 3404
Asp Pro Asp Lys Leu Trp Ser Asp Asp Asn Glu Glu Glu Asn Val Asn
1045 1050 1055

gac act ctc aat gga tgg tat aaa aat gga aag cat cct gaa cat gca 3452
Asp Thr Leu Asn Gly Trp Tyr Lys Asn Gly Lys His Pro Glu His Ala
1060 1065 1070

ttc tat gaa ttt acc ttc cga agg ttt ttt gat gac aat ggc tac cca 3500
Phe Tyr Glu Phe Thr Phe Arg Arg Phe Phe Asp Asp Asn Gly Tyr Pro
1075 1080 1085 1090

tat aat tat ccg aag cct att gaa tat gaa tac att aat tca caa ggc 3548
Tyr Asn Tyr Pro Lys Pro Ile Glu Tyr Glu Tyr Ile Asn Ser Gln Gly
1095 1100 1105

tca gag cag cag tcg gat gaa gat gat caa aac aca ggc tca gag att 3596
Ser Glu Gln Gln Ser Asp Glu Asp Asp Gln Asn Thr Gly Ser Glu Ile
1110 1115 1120

aaa aat cgc gat cta gta tat gtt taacacacta gtaaataaat gtaatgagga 3650
Lys Asn Arg Asp Leu Val Tyr Val
1125 1130

tttgtaaaag ggccctgaaat gcgaggtggt ttgaggttct gagagtaaaa ttatgcaaatt 3710

atgacagagc tatatatgtg tgctctgtgt acaatatattt attttcctaa attatgggaa 3770

atccttttaa aatgttaatt tattccagcc gtttaaataca gtatttagaa aaaaattggt 3830

ataaggaaag taaattatga actgaatatt atagtcagtt cttggtactt aaagtactta 3890

aaataagtag tgctttgttt aaaaggagaa acctgggtatc tatttggtata tatgctaaat 3950

aattttaaaa tacaagagtt tttgaaattt tttt 3984

<210> 2
<211> 1130
<212> PRT
<213> Homo sapiens

<400> 2

Met	Lys	Arg	Ser	Glu	Lys	Pro	Glu	Gly	Tyr	Arg	Gln	Met	Arg	Pro	Lys
1				5					10					15	
Thr	Phe	Pro	Ala	Ser	Asn	Tyr	Thr	Val	Ser	Ser	Arg	Gln	Met	Leu	Gln
			20					25					30		
Glu	Ile	Arg	Glu	Ser	Leu	Arg	Asn	Leu	Ser	Lys	Pro	Ser	Asp	Ala	Ala
		35					40					45			
Lys	Ala	Glu	His	Asn	Met	Ser	Lys	Met	Ser	Thr	Glu	Asp	Pro	Arg	Gln
	50					55					60				
Val	Arg	Asn	Pro	Pro	Lys	Phe	Gly	Thr	His	His	Lys	Ala	Leu	Gln	Glu
65					70					75					80
Ile	Arg	Asn	Ser	Leu	Leu	Pro	Phe	Ala	Asn	Glu	Thr	Asn	Ser	Ser	Arg
				85					90					95	
Ser	Thr	Ser	Glu	Val	Asn	Pro	Gln	Met	Leu	Gln	Asp	Leu	Gln	Ala	Ala
			100					105					110		
Gly	Phe	Asp	Glu	Asp	Met	Val	Ile	Gln	Ala	Leu	Gln	Lys	Thr	Asn	Asn
		115					120					125			
Arg	Ser	Ile	Glu	Ala	Ala	Ile	Glu	Phe	Ile	Ser	Lys	Met	Ser	Tyr	Gln
	130					135					140				
Asp	Pro	Arg	Arg	Glu	Gln	Met	Ala	Ala	Ala	Ala	Ala	Arg	Pro	Ile	Asn
145					150					155					160
Ala	Ser	Met	Lys	Pro	Gly	Asn	Val	Gln	Gln	Ser	Val	Asn	Arg	Lys	Gln
				165					170					175	
Ser	Trp	Lys	Gly	Ser	Lys	Glu	Ser	Leu	Val	Pro	Gln	Arg	His	Gly	Pro
			180					185					190		
Pro	Leu	Gly	Glu	Ser	Val	Ala	Tyr	His	Ser	Glu	Ser	Pro	Asn	Ser	Gln
		195					200					205			
Thr	Asp	Val	Gly	Arg	Pro	Leu	Ser	Gly	Ser	Gly	Ile	Ser	Ala	Phe	Val
	210					215					220				
Gln	Ala	His	Pro	Ser	Asn	Gly	Gln	Arg	Val	Asn	Pro	Pro	Pro	Pro	Pro
225					230					235					240
Gln	Val	Arg	Ser	Val	Thr	Pro	Pro	Pro	Pro	Pro	Arg	Gly	Gln	Thr	Pro
				245					250					255	
Pro	Pro	Arg	Gly	Thr	Thr	Pro	Pro	Pro	Pro	Ser	Trp	Glu	Pro	Asn	Ser
			260					265					270		
Gln	Thr	Lys	Arg	Tyr	Ser	Gly	Asn	Met	Glu	Tyr	Val	Ile	Ser	Arg	Ile
		275					280					285			
Ser	Pro	Val	Pro	Pro	Gly	Ala	Trp	Gln	Glu	Gly	Tyr	Pro	Pro	Pro	Pro
	290					295					300				

Leu Asn Thr Ser Pro Met Asn Pro Pro Asn Gln Gly Gln Arg Gly Ile
 305 310 315 320
 Ser Ser Val Pro Val Gly Arg Gln Pro Ile Ile Met Gln Ser Ser Ser
 325 330 335
 Lys Phe Asn Phe Pro Ser Gly Arg Pro Gly Met Gln Asn Gly Thr Gly
 340 345 350
 Gln Thr Asp Phe Met Ile His Gln Asn Val Val Pro Ala Gly Thr Val
 355 360 365
 Asn Arg Gln Pro Pro Pro Pro Tyr Pro Leu Thr Ala Ala Asn Gly Gln
 370 375 380
 Ser Pro Ser Ala Leu Gln Thr Gly Gly Ser Ala Ala Pro Ser Ser Tyr
 385 390 395 400
 Thr Asn Gly Ser Ile Pro Gln Ser Met Met Val Pro Asn Arg Asn Ser
 405 410 415
 His Asn Met Glu Leu Tyr Asn Ile Ser Val Pro Gly Leu Gln Thr Asn
 420 425 430
 Trp Pro Gln Ser Ser Ser Ala Pro Ala Gln Ser Ser Pro Ser Ser Gly
 435 440 445
 His Glu Ile Pro Thr Trp Gln Pro Asn Ile Pro Val Arg Ser Asn Ser
 450 455 460
 Phe Asn Asn Pro Leu Gly Asn Arg Ala Ser His Ser Ala Asn Ser Gln
 465 470 475 480
 Pro Ser Ala Thr Thr Val Thr Ala Ile Thr Pro Ala Pro Ile Gln Gln
 485 490 495
 Pro Val Lys Ser Met Arg Val Leu Lys Pro Glu Leu Gln Thr Ala Leu
 500 505 510
 Ala Pro Thr His Pro Ser Trp Ile Pro Gln Pro Ile Gln Thr Val Gln
 515 520 525
 Pro Ser Pro Phe Pro Glu Gly Thr Ala Ser Asn Val Thr Val Met Pro
 530 535 540
 Pro Val Ala Glu Ala Pro Asn Tyr Gln Gly Pro Pro Pro Pro Tyr Pro
 545 550 555 560
 Lys His Leu Leu His Gln Asn Pro Ser Val Pro Pro Tyr Glu Ser Ile
 565 570 575
 Ser Lys Pro Ser Lys Glu Asp Gln Pro Ser Leu Pro Lys Glu Asp Glu
 580 585 590
 Ser Glu Lys Ser Tyr Glu Asn Val Asp Ser Gly Asp Lys Glu Lys Lys
 595 600 605

Gln	Ile	Thr	Thr	Ser	Pro	Ile	Thr	Val	Arg	Lys	Asn	Lys	Lys	Asp	Glu	610	615	620
Glu	Arg	Arg	Glu	Ser	Arg	Ile	Gln	Ser	Tyr	Ser	Pro	Gln	Ala	Phe	Lys	625	630	635
Phe	Phe	Met	Glu	Gln	His	Val	Glu	Asn	Val	Leu	Lys	Ser	His	Gln	Gln	645	650	655
Arg	Leu	His	Arg	Lys	Lys	Gln	Leu	Glu	Asn	Glu	Met	Met	Arg	Val	Gly	660	665	670
Leu	Ser	Gln	Asp	Ala	Gln	Asp	Gln	Met	Arg	Lys	Met	Leu	Cys	Gln	Lys	675	680	685
Glu	Ser	Asn	Tyr	Ile	Arg	Leu	Lys	Arg	Ala	Lys	Met	Asp	Lys	Ser	Met	690	695	700
Phe	Val	Lys	Ile	Lys	Thr	Leu	Gly	Ile	Gly	Ala	Phe	Gly	Glu	Val	Cys	705	710	715
Leu	Ala	Arg	Lys	Val	Asp	Thr	Lys	Ala	Leu	Tyr	Ala	Thr	Lys	Thr	Leu	725	730	735
Arg	Lys	Lys	Asp	Val	Leu	Leu	Arg	Asn	Gln	Val	Ala	His	Val	Lys	Ala	740	745	750
Glu	Arg	Asp	Ile	Leu	Ala	Glu	Ala	Asp	Asn	Glu	Trp	Val	Val	Arg	Leu	755	760	765
Tyr	Tyr	Ser	Phe	Gln	Asp	Lys	Asp	Asn	Leu	Tyr	Phe	Val	Met	Asp	Tyr	770	775	780
Ile	Pro	Gly	Gly	Asp	Met	Met	Ser	Leu	Leu	Ile	Arg	Met	Gly	Ile	Phe	785	790	795
Pro	Glu	Ser	Leu	Ala	Arg	Phe	Tyr	Ile	Ala	Glu	Leu	Thr	Cys	Ala	Val	805	810	815
Glu	Ser	Val	His	Lys	Met	Gly	Phe	Ile	His	Arg	Asp	Ile	Lys	Pro	Asp	820	825	830
Asn	Ile	Leu	Ile	Asp	Arg	Asp	Gly	His	Ile	Lys	Leu	Thr	Asp	Phe	Gly	835	840	845
Leu	Cys	Thr	Gly	Phe	Arg	Trp	Thr	His	Asp	Ser	Lys	Tyr	Tyr	Gln	Ser	850	855	860
Gly	Asp	His	Pro	Arg	Gln	Asp	Ser	Met	Asp	Phe	Ser	Asn	Glu	Trp	Gly	865	870	875
Asp	Pro	Ser	Ser	Cys	Arg	Cys	Gly	Asp	Arg	Leu	Lys	Pro	Leu	Glu	Arg	885	890	895
Arg	Ala	Ala	Arg	Gln	His	Gln	Arg	Cys	Leu	Ala	His	Ser	Leu	Val	Gly	900	905	910

Thr Pro Asn Tyr Ile Ala Pro Glu Val Leu Leu Arg Thr Gly Tyr Thr
 915 920 925
 Gln Leu Cys Asp Trp Trp Ser Val Gly Val Ile Leu Phe Glu Met Leu
 930 935 940
 Val Gly Gln Pro Pro Phe Leu Ala Gln Thr Pro Leu Glu Thr Gln Met
 945 950 955 960
 Lys Val Ile Asn Trp Gln Thr Ser Leu His Ile Pro Pro Gln Ala Lys
 965 970 975
 Leu Ser Pro Glu Ala Ser Asp Leu Ile Ile Lys Leu Cys Arg Gly Pro
 980 985 990
 Glu Asp Arg Leu Gly Lys Asn Gly Ala Asp Glu Ile Lys Ala His Pro
 995 1000 1005
 Phe Phe Lys Thr Ile Asp Phe Ser Ser Asp Leu Arg Gln Gln Ser Ala
 1010 1015 1020
 Ser Tyr Ile Pro Lys Ile Thr His Pro Thr Asp Thr Ser Asn Phe Asp
 1025 1030 1035 1040
 Pro Val Asp Pro Asp Lys Leu Trp Ser Asp Asp Asn Glu Glu Glu Asn
 1045 1050 1055
 Val Asn Asp Thr Leu Asn Gly Trp Tyr Lys Asn Gly Lys His Pro Glu
 1060 1065 1070
 His Ala Phe Tyr Glu Phe Thr Phe Arg Arg Phe Phe Asp Asp Asn Gly
 1075 1080 1085
 Tyr Pro Tyr Asn Tyr Pro Lys Pro Ile Glu Tyr Glu Tyr Ile Asn Ser
 1090 1095 1100
 Gln Gly Ser Glu Gln Gln Ser Asp Glu Asp Asp Gln Asn Thr Gly Ser
 1105 1110 1115 1120
 Glu Ile Lys Asn Arg Asp Leu Val Tyr Val
 1125 1130

<210> 3
 <211> 3213
 <212> DNA
 <213> Mus musculus

<220>
 <221> CDS
 <222> (1) .. (2886)

<400> 3
 gtg caa cat tca att aac cga aaa caa agc tgg aaa ggt tct aaa gag 48
 Val Gln His Ser Ile Asn Arg Lys Gln Ser Trp Lys Gly Ser Lys Glu
 1 5 10 15

tct cta gtt cct cag aga cac ggc cca tct cta gga gaa aat gtg gtt	96
Ser Leu Val Pro Gln Arg His Gly Pro Ser Leu Gly Glu Asn Val Val	
20 25 30	
tat cgt tct gaa agc ccc aac tca cag gcg gat gta gga aga cct ctg	144
Tyr Arg Ser Glu Ser Pro Asn Ser Gln Ala Asp Val Gly Arg Pro Leu	
35 40 45	
tct gga tcc ggc att gca gca ttt gct caa gct cac cca agc aat gga	192
Ser Gly Ser Gly Ile Ala Ala Phe Ala Gln Ala His Pro Ser Asn Gly	
50 55 60	
cag aga gtg aac ccc cca cca cca cct caa gtt agg agt gtt act cct	240
Gln Arg Val Asn Pro Pro Pro Pro Gln Val Arg Ser Val Thr Pro	
65 70 75 80	
cca cca cct ccg aga ggc cag acc cca cct ccc cga ggc acc act ccc	288
Pro Pro Pro Pro Arg Gly Gln Thr Pro Pro Pro Arg Gly Thr Thr Pro	
85 90 95	
cct ccc ccc tca tgg gaa cca agc tct cag aca aag cgc tac tct ggg	336
Pro Pro Pro Ser Trp Glu Pro Ser Ser Gln Thr Lys Arg Tyr Ser Gly	
100 105 110	
aac atg gag tac gta atc tcc cga atc tcc cct gtt cca cct ggg gcg	384
Asn Met Glu Tyr Val Ile Ser Arg Ile Ser Pro Val Pro Pro Gly Ala	
115 120 125	
tgg cag gag ggg tac cct cca cca cct ctt acc act tct ccc atg aat	432
Trp Gln Glu Gly Tyr Pro Pro Pro Pro Leu Thr Thr Ser Pro Met Asn	
130 135 140	
ccc cct agc cag gct cag agg gcc att agt tct gtt cca gtt ggt aga	480
Pro Pro Ser Gln Ala Gln Arg Ala Ile Ser Ser Val Pro Val Gly Arg	
145 150 155 160	
caa ccc atc atc atg cag agt act agc aaa ttt aac ttt aca cca ggg	528
Gln Pro Ile Ile Met Gln Ser Thr Ser Lys Phe Asn Phe Thr Pro Gly	
165 170 175	
cga cct gga gtt cag aat ggt ggt ggt cag tct gat ttt atc gtg cac	576
Arg Pro Gly Val Gln Asn Gly Gly Gly Gln Ser Asp Phe Ile Val His	
180 185 190	
caa aat gtc ccc act ggt tct gtg act cgg cag cca cca cct cca tat	624
Gln Asn Val Pro Thr Gly Ser Val Thr Arg Gln Pro Pro Pro Pro Tyr	
195 200 205	
cct ctg acc cca gct aat gga caa agc ccc tct gct tta caa aca ggg	672
Pro Leu Thr Pro Ala Asn Gly Gln Ser Pro Ser Ala Leu Gln Thr Gly	
210 215 220	
gct tct gct gct cca cca tca ttc gcc aat gga aac gtt cct cag tcg	720
Ala Ser Ala Ala Pro Pro Ser Phe Ala Asn Gly Asn Val Pro Gln Ser	
225 230 235 240	

atg atg gtg ccc aac agg aac agt cat aac atg gag ctt tat aat att	768
Met Met Val Pro Asn Arg Asn Ser His Asn Met Glu Leu Tyr Asn Ile	
245 250 255	
aat gtc cct gga ctg caa aca gcc tgg ccc cag tcg tct tct gct cct	816
Asn Val Pro Gly Leu Gln Thr Ala Trp Pro Gln Ser Ser Ser Ala Pro	
260 265 270	
gcg cag tca tcc cca agc ggt ggg cat gaa att cct aca tgg caa cct	864
Ala Gln Ser Ser Pro Ser Gly Gly His Glu Ile Pro Thr Trp Gln Pro	
275 280 285	
aac ata cca gtg agg tca aat tct ttt aat aac cca tta gga agt aga	912
Asn Ile Pro Val Arg Ser Asn Ser Phe Asn Asn Pro Leu Gly Ser Arg	
290 295 300	
gca agt cac tct gct aat tct cag cct tct gcc act aca gtc act gcc	960
Ala Ser His Ser Ala Asn Ser Gln Pro Ser Ala Thr Thr Val Thr Ala	
305 310 315 320	
atc aca ccc gct cct att caa cag ccc gtg aaa agc atg cgc gtc ctg	1008
Ile Thr Pro Ala Pro Ile Gln Gln Pro Val Lys Ser Met Arg Val Leu	
325 330 335	
aaa cca gag ctg cag act gct tta gcc cca acc cat cct tct tgg atg	1056
Lys Pro Glu Leu Gln Thr Ala Leu Ala Pro Thr His Pro Ser Trp Met	
340 345 350	
cca cag cca gtt cag act gtt cag cct acc cct ttt tct gag ggt aca	1104
Pro Gln Pro Val Gln Thr Val Gln Pro Thr Pro Phe Ser Glu Gly Thr	
355 360 365	
gct tca agt gtg cct gtc atc cca cct gtt gct gaa gct cca agc tat	1152
Ala Ser Ser Val Pro Val Ile Pro Pro Val Ala Glu Ala Pro Ser Tyr	
370 375 380	
caa ggt cca cca ccg cct tat cca aaa cat ctg cta cac caa aac cca	1200
Gln Gly Pro Pro Pro Pro Tyr Pro Lys His Leu Leu His Gln Asn Pro	
385 390 395 400	
tct gtc cct cca tat gag tca gta agt aag ccc tgc aaa gat gaa cag	1248
Ser Val Pro Pro Tyr Glu Ser Val Ser Lys Pro Cys Lys Asp Glu Gln	
405 410 415	
cct agc tta ccc aag gaa gat gat agt gag aag agt gcg gac agt ggt	1296
Pro Ser Leu Pro Lys Glu Asp Asp Ser Glu Lys Ser Ala Asp Ser Gly	
420 425 430	
gac tct ggg gat aaa gaa aag aaa cag att aca act tca cct atc act	1344
Asp Ser Gly Asp Lys Glu Lys Lys Gln Ile Thr Thr Ser Pro Ile Thr	
435 440 445	
gtt cgg aaa aac aag aaa gat gaa gaa cga aga gag tct cgg att cag	1392
Val Arg Lys Asn Lys Lys Asp Glu Glu Arg Arg Glu Ser Arg Ile Gln	
450 455 460	

agt tac tcc cca cag gcc ttt aag ttc ttc atg gag cag cac gta gag	1440
Ser Tyr Ser Pro Gln Ala Phe Lys Phe Phe Met Glu Gln His Val Glu	
465 470 475 480	
aac gtc ctg aag tct cat cag cag cgt ctg cat cgg aag aag cag cta	1488
Asn Val Leu Lys Ser His Gln Gln Arg Leu His Arg Lys Lys Gln Leu	
485 490 495	
gaa aat gaa atg atg cgg gtt gga tta tct caa gat gcc cag gat caa	1536
Glu Asn Glu Met Met Arg Val Gly Leu Ser Gln Asp Ala Gln Asp Gln	
500 505 510	
atg aga aag atg ctt tgc cag aaa gag tct aac tat att cgt ctt aaa	1584
Met Arg Lys Met Leu Cys Gln Lys Glu Ser Asn Tyr Ile Arg Leu Lys	
515 520 525	
agg gct aaa atg gac aag tct atg ttt gta aag ata aag aca tta gga	1632
Arg Ala Lys Met Asp Lys Ser Met Phe Val Lys Ile Lys Thr Leu Gly	
530 535 540	
ata gga gcg ttt ggt gaa gtc tgt cta gca aga aaa gtc gat act aaa	1680
Ile Gly Ala Phe Gly Glu Val Cys Leu Ala Arg Lys Val Asp Thr Lys	
545 550 555 560	
gct ttg tat gca aca aag act ctt cga aag aaa gac gtt ctg ctc cga	1728
Ala Leu Tyr Ala Thr Lys Thr Leu Arg Lys Lys Asp Val Leu Leu Arg	
565 570 575	
aat cag gtg gct cat gtg aaa gcg gag agg gat atc cta gca gaa gcc	1776
Asn Gln Val Ala His Val Lys Ala Glu Arg Asp Ile Leu Ala Glu Ala	
580 585 590	
gac aat gag tgg gtg gtc cgc ctg tac tac tct ttc cag gac aag gac	1824
Asp Asn Glu Trp Val Val Arg Leu Tyr Tyr Ser Phe Gln Asp Lys Asp	
595 600 605	
aac ttg tac ttt gtg atg gac tac att cct ggg ggg gat atg atg agc	1872
Asn Leu Tyr Phe Val Met Asp Tyr Ile Pro Gly Gly Asp Met Met Ser	
610 615 620	
cta tta att aga atg ggc atc ttt cct gaa aat ctg gca cga ttc tac	1920
Leu Leu Ile Arg Met Gly Ile Phe Pro Glu Asn Leu Ala Arg Phe Tyr	
625 630 635 640	
ata gca gaa ctt acc tgt gca gtt gaa agt gtt cat aaa atg ggt ttt	1968
Ile Ala Glu Leu Thr Cys Ala Val Glu Ser Val His Lys Met Gly Phe	
645 650 655	
att cat aga gat att aaa cct gat aac att ttg att gac cgt gat ggc	2016
Ile His Arg Asp Ile Lys Pro Asp Asn Ile Leu Ile Asp Arg Asp Gly	
660 665 670	
cat att aaa ttg act gac ttt ggc ttg tgc act ggc ttc aga tgg aca	2064
His Ile Lys Leu Thr Asp Phe Gly Leu Cys Thr Gly Phe Arg Trp Thr	
675 680 685	

cat gac tcc aag tac tac cag agt ggg gat cac cca cgg caa gat agc	2112
His Asp Ser Lys Tyr Tyr Gln Ser Gly Asp His Pro Arg Gln Asp Ser	
690 695 700	
atg gat ttc agt aac gaa tgg gga gat cct tcc aat tgt cgg tgt ggg	2160
Met Asp Phe Ser Asn Glu Trp Gly Asp Pro Ser Asn Cys Arg Cys Gly	
705 710 715 720	
gac aga ctg aag cca ctg gag cgg aga gct gct cgc cag cac cag cga	2208
Asp Arg Leu Lys Pro Leu Glu Arg Arg Ala Ala Arg Gln His Gln Arg	
725 730 735	
tgt cta gcc cat tct ctg gtt ggg act ccc aat tat att gca cct gaa	2256
Cys Leu Ala His Ser Leu Val Gly Thr Pro Asn Tyr Ile Ala Pro Glu	
740 745 750	
gtg cta ctg cga aca gga tat aca cag ctg tgt gac tgg tgg agt gtt	2304
Val Leu Leu Arg Thr Gly Tyr Thr Gln Leu Cys Asp Trp Trp Ser Val	
755 760 765	
ggg gtt att ctt tgt gaa atg ttg gtg gga caa cct cct ttc ttg gca	2352
Gly Val Ile Leu Cys Glu Met Leu Val Gly Gln Pro Pro Phe Leu Ala	
770 775 780	
caa acc cca tta gaa aca caa atg aag gtt atc atc tgg caa act tct	2400
Gln Thr Pro Leu Glu Thr Gln Met Lys Val Ile Ile Trp Gln Thr Ser	
785 790 795 800	
cta cac atc cct cct caa gct aag ctg agt cct gaa gcc tct gac ctc	2448
Leu His Ile Pro Pro Gln Ala Lys Leu Ser Pro Glu Ala Ser Asp Leu	
805 810 815	
att atc aaa ctg tgt cga gga cca gaa gac cgc ctc ggc aag aac ggt	2496
Ile Ile Lys Leu Cys Arg Gly Pro Glu Asp Arg Leu Gly Lys Asn Gly	
820 825 830	
gct gat gag ata aag gct cat cca ttt ttt aag acc atc gat ttc tct	2544
Ala Asp Glu Ile Lys Ala His Pro Phe Phe Lys Thr Ile Asp Phe Ser	
835 840 845	
agt gat ctg aga cag cag tct gct tca tac atc cct aaa atc acg cat	2592
Ser Asp Leu Arg Gln Gln Ser Ala Ser Tyr Ile Pro Lys Ile Thr His	
850 855 860	
cca aca gat aca tcc aat ttc gac cct gtt gat cct gat aaa ttg tgg	2640
Pro Thr Asp Thr Ser Asn Phe Asp Pro Val Asp Pro Asp Lys Leu Trp	
865 870 875 880	
agc gat ggc agc gag gag gaa aat atc agt gac act ctg agc gga tgg	2688
Ser Asp Gly Ser Glu Glu Glu Asn Ile Ser Asp Thr Leu Ser Gly Trp	
885 890 895	
tat aaa aat ggg aag cac ccc gag cac gct ttc tat gag ttc acc ttt	2736
Tyr Lys Asn Gly Lys His Pro Glu His Ala Phe Tyr Glu Phe Thr Phe	
900 905 910	

cgg agg ttt ttt gat gac aat ggc tac cca tat aat tat cca aag cct 2784
 Arg Arg Phe Phe Asp Asp Asn Gly Tyr Pro Tyr Asn Tyr Pro Lys Pro
 915 920 925

att gag tat gaa tac att cat tca cag ggc tca gaa caa cag tct gat 2832
 Ile Glu Tyr Glu Tyr Ile His Ser Gln Gly Ser Glu Gln Gln Ser Asp
 930 935 940

gaa gat gat caa cac aca agc tcc gat gga aac aac cga gat cta gtg 2880
 Glu Asp Asp Gln His Thr Ser Ser Asp Gly Asn Asn Arg Asp Leu Val
 945 950 955 960

tat gtt taataaacta ggagatcatt gtaagaattt gcaagaggcc tgaagtgcag 2936
 Tyr Val

ggggtttttga agtttttgaga aaattatgca aatgtgacag agtttgtgtg ctctgtgtac 2996
 aatatttttat tttcctaagt tatgggaaat tgttttaaaa tgttaattta ttccaccctt 3056
 ttaattcagt aatttagaaa aaattgttat aaggaaagta aattatgaac tgagtattat 3116
 agtcaattct tgggtacttaa agtacttaaaa aagagaagcc tgggtatcttt tgtatatata 3176
 ataaataatt ttaaaatccc aaaaaaaaaa aaaaaaa 3213

<210> 4
 <211> 962
 <212> PRT
 <213> Mus musculus

<400> 4
 Val Gln His Ser Ile Asn Arg Lys Gln Ser Trp Lys Gly Ser Lys Glu
 1 5 10 15
 Ser Leu Val Pro Gln Arg His Gly Pro Ser Leu Gly Glu Asn Val Val
 20 25 30
 Tyr Arg Ser Glu Ser Pro Asn Ser Gln Ala Asp Val Gly Arg Pro Leu
 35 40 45
 Ser Gly Ser Gly Ile Ala Ala Phe Ala Gln Ala His Pro Ser Asn Gly
 50 55 60
 Gln Arg Val Asn Pro Pro Pro Pro Pro Gln Val Arg Ser Val Thr Pro
 65 70 75 80
 Pro Pro Pro Pro Arg Gly Gln Thr Pro Pro Pro Arg Gly Thr Thr Pro
 85 90 95
 Pro Pro Pro Ser Trp Glu Pro Ser Ser Gln Thr Lys Arg Tyr Ser Gly
 100 105 110
 Asn Met Glu Tyr Val Ile Ser Arg Ile Ser Pro Val Pro Pro Gly Ala
 115 120 125
 Trp Gln Glu Gly Tyr Pro Pro Pro Pro Leu Thr Thr Ser Pro Met Asn
 130 135 140

Pro Pro Ser Gln Ala Gln Arg Ala Ile Ser Ser Val Pro Val Gly Arg
 145 150 155 160
 Gln Pro Ile Ile Met Gln Ser Thr Ser Lys Phe Asn Phe Thr Pro Gly
 165 170 175
 Arg Pro Gly Val Gln Asn Gly Gly Gly Gln Ser Asp Phe Ile Val His
 180 185 190
 Gln Asn Val Pro Thr Gly Ser Val Thr Arg Gln Pro Pro Pro Tyr
 195 200 205
 Pro Leu Thr Pro Ala Asn Gly Gln Ser Pro Ser Ala Leu Gln Thr Gly
 210 215 220
 Ala Ser Ala Ala Pro Pro Ser Phe Ala Asn Gly Asn Val Pro Gln Ser
 225 230 235 240
 Met Met Val Pro Asn Arg Asn Ser His Asn Met Glu Leu Tyr Asn Ile
 245 250 255
 Asn Val Pro Gly Leu Gln Thr Ala Trp Pro Gln Ser Ser Ser Ala Pro
 260 265 270
 Ala Gln Ser Ser Pro Ser Gly Gly His Glu Ile Pro Thr Trp Gln Pro
 275 280 285
 Asn Ile Pro Val Arg Ser Asn Ser Phe Asn Asn Pro Leu Gly Ser Arg
 290 295 300
 Ala Ser His Ser Ala Asn Ser Gln Pro Ser Ala Thr Thr Val Thr Ala
 305 310 315 320
 Ile Thr Pro Ala Pro Ile Gln Gln Pro Val Lys Ser Met Arg Val Leu
 325 330 335
 Lys Pro Glu Leu Gln Thr Ala Leu Ala Pro Thr His Pro Ser Trp Met
 340 345 350
 Pro Gln Pro Val Gln Thr Val Gln Pro Thr Pro Phe Ser Glu Gly Thr
 355 360 365
 Ala Ser Ser Val Pro Val Ile Pro Pro Val Ala Glu Ala Pro Ser Tyr
 370 375 380
 Gln Gly Pro Pro Pro Pro Tyr Pro Lys His Leu Leu His Gln Asn Pro
 385 390 395 400
 Ser Val Pro Pro Tyr Glu Ser Val Ser Lys Pro Cys Lys Asp Glu Gln
 405 410 415
 Pro Ser Leu Pro Lys Glu Asp Asp Ser Glu Lys Ser Ala Asp Ser Gly
 420 425 430
 Asp Ser Gly Asp Lys Glu Lys Lys Gln Ile Thr Thr Ser Pro Ile Thr
 435 440 445

Val	Arg	Lys	Asn	Lys	Lys	Asp	Glu	Glu	Arg	Arg	Glu	Ser	Arg	Ile	Gln	
450						455					460					
Ser	Tyr	Ser	Pro	Gln	Ala	Phe	Lys	Phe	Phe	Met	Glu	Gln	His	Val	Glu	
465					470					475					480	
Asn	Val	Leu	Lys	Ser	His	Gln	Gln	Arg	Leu	His	Arg	Lys	Lys	Gln	Leu	
				485					490					495		
Glu	Asn	Glu	Met	Met	Arg	Val	Gly	Leu	Ser	Gln	Asp	Ala	Gln	Asp	Gln	
			500					505					510			
Met	Arg	Lys	Met	Leu	Cys	Gln	Lys	Glu	Ser	Asn	Tyr	Ile	Arg	Leu	Lys	
		515					520					525				
Arg	Ala	Lys	Met	Asp	Lys	Ser	Met	Phe	Val	Lys	Ile	Lys	Thr	Leu	Gly	
	530					535						540				
Ile	Gly	Ala	Phe	Gly	Glu	Val	Cys	Leu	Ala	Arg	Lys	Val	Asp	Thr	Lys	
545					550					555					560	
Ala	Leu	Tyr	Ala	Thr	Lys	Thr	Leu	Arg	Lys	Lys	Asp	Val	Leu	Leu	Arg	
				565					570					575		
Asn	Gln	Val	Ala	His	Val	Lys	Ala	Glu	Arg	Asp	Ile	Leu	Ala	Glu	Ala	
			580					585					590			
Asp	Asn	Glu	Trp	Val	Val	Arg	Leu	Tyr	Tyr	Ser	Phe	Gln	Asp	Lys	Asp	
		595					600					605				
Asn	Leu	Tyr	Phe	Val	Met	Asp	Tyr	Ile	Pro	Gly	Gly	Asp	Met	Met	Ser	
	610					615					620					
Leu	Leu	Ile	Arg	Met	Gly	Ile	Phe	Pro	Glu	Asn	Leu	Ala	Arg	Phe	Tyr	
625					630					635					640	
Ile	Ala	Glu	Leu	Thr	Cys	Ala	Val	Glu	Ser	Val	His	Lys	Met	Gly	Phe	
				645					650					655		
Ile	His	Arg	Asp	Ile	Lys	Pro	Asp	Asn	Ile	Leu	Ile	Asp	Arg	Asp	Gly	
			660					665					670			
His	Ile	Lys	Leu	Thr	Asp	Phe	Gly	Leu	Cys	Thr	Gly	Phe	Arg	Trp	Thr	
		675					680					685				
His	Asp	Ser	Lys	Tyr	Tyr	Gln	Ser	Gly	Asp	His	Pro	Arg	Gln	Asp	Ser	
	690					695					700					
Met	Asp	Phe	Ser	Asn	Glu	Trp	Gly	Asp	Pro	Ser	Asn	Cys	Arg	Cys	Gly	
705					710					715					720	
Asp	Arg	Leu	Lys	Pro	Leu	Glu	Arg	Arg	Ala	Ala	Arg	Gln	His	Gln	Arg	
				725					730					735		
Cys	Leu	Ala	His	Ser	Leu	Val	Gly	Thr	Pro	Asn	Tyr	Ile	Ala	Pro	Glu	
			740					745					750			

atc cga tat tcc ctc ctg cct ttt gcc aac gag tca ggc act tcg gca	96
Ile Arg Tyr Ser Leu Leu Pro Phe Ala Asn Glu Ser Gly Thr Ser Ala	
20 25 30	
gct gca gag gtg aac cgg cag atg ctt cag gag ttg gtg aat gcg gca	144
Ala Ala Glu Val Asn Arg Gln Met Leu Gln Glu Leu Val Asn Ala Ala	
35 40 45	
tgt gac cag gag atg gct ggc aga gcg ctc acg cag acg ggc agt agg	192
Cys Asp Gln Glu Met Ala Gly Arg Ala Leu Thr Gln Thr Gly Ser Arg	
50 55 60	
agt atc gaa gct gcc ttg gag tac atc agt aag atg ggc tac ctg gac	240
Ser Ile Glu Ala Ala Leu Glu Tyr Ile Ser Lys Met Gly Tyr Leu Asp	
65 70 75 80	
ccc agg aat gag cag att gtg cga gtc atc aag cag acc tcc cca gga	288
Pro Arg Asn Glu Gln Ile Val Arg Val Ile Lys Gln Thr Ser Pro Gly	
85 90 95	
aag ggc ctg gcg tcc acc ccg gtg act cgg cgg ccc agt ttc gag ggc	336
Lys Gly Leu Ala Ser Thr Pro Val Thr Arg Arg Pro Ser Phe Glu Gly	
100 105 110	
aca ggg gaa gca ctc cca tcc tac cac cag ctg ggt ggt gca aac tac	384
Thr Gly Glu Ala Leu Pro Ser Tyr His Gln Leu Gly Gly Ala Asn Tyr	
115 120 125	
gag ggc ccc gcc gca ctg gag gag atg ccg cgg caa tat tta gac ttt	432
Glu Gly Pro Ala Ala Leu Glu Glu Met Pro Arg Gln Tyr Leu Asp Phe	
130 135 140	
ctc ttc cct gga gcc gga gcc ggc acc cac ggt gcc cag gct cac cag	480
Leu Phe Pro Gly Ala Gly Ala Gly Thr His Gly Ala Gln Ala His Gln	
145 150 155 160	
cat cct ccc aaa ggg tac agc aca gca gta gag cca agt gcg cac ttt	528
His Pro Pro Lys Gly Tyr Ser Thr Ala Val Glu Pro Ser Ala His Phe	
165 170 175	
ccg ggc aca cac tat ggt cgt ggt cat cta cta tcg gag cag tct ggg	576
Pro Gly Thr His Tyr Gly Arg Gly His Leu Leu Ser Glu Gln Ser Gly	
180 185 190	
tat ggg gtg cag cgc agt tcc tcc ttc cag aac aag acg cca cca gat	624
Tyr Gly Val Gln Arg Ser Ser Ser Phe Gln Asn Lys Thr Pro Pro Asp	
195 200 205	
gcc tat tcc agc atg gcc aag gcc cag ggt ggc cct ccc gcc agc ctc	672
Ala Tyr Ser Ser Met Ala Lys Ala Gln Gly Gly Pro Pro Ala Ser Leu	
210 215 220	
acc ttt cct gcc cat gct ggg ctg tac act gcc tcg cac cac aag ccg	720
Thr Phe Pro Ala His Ala Gly Leu Tyr Thr Ala Ser His His Lys Pro	
225 230 235 240	

gcg gct acc cca cct ggg gcc cac cca tta cat gtg ttg ggc acc cgg	768
Ala Ala Thr Pro Pro Gly Ala His Pro Leu His Val Leu Gly Thr Arg	
245 250 255	
ggt ccc acg ttt act ggc gaa agc tct gca cag gct gtg ctg gca ccg	816
Gly Pro Thr Phe Thr Gly Glu Ser Ser Ala Gln Ala Val Leu Ala Pro	
260 265 270	
tcc agg aac agc ctc aat gct gac ttg tac gag ctg ggc tcc acg gtg	864
Ser Arg Asn Ser Leu Asn Ala Asp Leu Tyr Glu Leu Gly Ser Thr Val	
275 280 285	
ccc tgg tct gca gct cca ctg gca cgc cgc gac tcg ctg cag aag cag	912
Pro Trp Ser Ala Ala Pro Leu Ala Arg Arg Asp Ser Leu Gln Lys Gln	
290 295 300	
ggt cta gaa gcc tcg cgg ccg cat gtg gct ttt cgg gct ggc ccc agc	960
Gly Leu Glu Ala Ser Arg Pro His Val Ala Phe Arg Ala Gly Pro Ser	
305 310 315 320	
agg acc aac tcc ttc aac aac cca caa cct gag ccc tca ctg ccc gcc	1008
Arg Thr Asn Ser Phe Asn Asn Pro Gln Pro Glu Pro Ser Leu Pro Ala	
325 330 335	
ccc aac acg gtc acc gcc gtg acg gcc gca cac atc ctt cac cct gtg	1056
Pro Asn Thr Val Thr Ala Val Thr Ala Ala His Ile Leu His Pro Val	
340 345 350	
aag agc gtg cgt gtg ctg cgg ccc gag ccc cag aca gcc gtg ggg ccc	1104
Lys Ser Val Arg Val Leu Arg Pro Glu Pro Gln Thr Ala Val Gly Pro	
355 360 365	
tcg cac ccc gcc tgg gtg gct gcg ccc aca gca cct gcc act gag agc	1152
Ser His Pro Ala Trp Val Ala Ala Pro Thr Ala Pro Ala Thr Glu Ser	
370 375 380	
ctg gag acg aag gag ggc agc gca ggc cca cac ccg ctg gat gtg gac	1200
Leu Glu Thr Lys Glu Gly Ser Ala Gly Pro His Pro Leu Asp Val Asp	
385 390 395 400	
tat ggc ggc tcc gag cgc agg tgc cca ccg cct ccg tat cca aag cac	1248
Tyr Gly Gly Ser Glu Arg Arg Cys Pro Pro Pro Pro Tyr Pro Lys His	
405 410 415	
ttg ctg ctg ccc agt aag tct gag cag tac agc gtg gac ctg gac agc	1296
Leu Leu Leu Pro Ser Lys Ser Glu Gln Tyr Ser Val Asp Leu Asp Ser	
420 425 430	
ctg tgc acc agt gtg cag cag agt ctg cga ggg ggc act gat cta gac	1344
Leu Cys Thr Ser Val Gln Gln Ser Leu Arg Gly Gly Thr Asp Leu Asp	
435 440 445	
ggg agt gac aag agc cac aaa ggt gcg aag gga gac aaa gct ggc aga	1392
Gly Ser Asp Lys Ser His Lys Gly Ala Lys Gly Asp Lys Ala Gly Arg	
450 455 460	

gac	aaa	aag	cag	att	cag	acc	tcc	ccg	gtg	cct	gtc	cgc	aag	aat	agc	1440
Asp	Lys	Lys	Gln	Ile	Gln	Thr	Ser	Pro	Val	Pro	Val	Arg	Lys	Asn	Ser	
465					470					475					480	
aga	gat	gaa	gag	aag	aga	gag	tct	cgc	atc	aag	agt	tac	tcc	cct	tat	1488
Arg	Asp	Glu	Glu	Lys	Arg	Glu	Ser	Arg	Ile	Lys	Ser	Tyr	Ser	Pro	Tyr	
				485					490					495		
gcc	ttc	aaa	ttc	ttc	atg	gag	caa	cac	gtg	gag	aat	gtc	atc	aaa	acc	1536
Ala	Phe	Lys	Phe	Phe	Met	Glu	Gln	His	Val	Glu	Asn	Val	Ile	Lys	Thr	
			500					505					510			
tac	cag	cag	aag	gtc	agc	cgg	agg	cta	cag	ctg	gag	cag	gaa	atg	gcc	1584
Tyr	Gln	Gln	Lys	Val	Ser	Arg	Arg	Leu	Gln	Leu	Glu	Gln	Glu	Met	Ala	
		515					520					525				
aaa	gct	ggg	ctc	tgt	gag	gcc	gag	cag	gag	cag	atg	agg	aag	atc	ctc	1632
Lys	Ala	Gly	Leu	Cys	Glu	Ala	Glu	Gln	Glu	Gln	Met	Arg	Lys	Ile	Leu	
	530					535					540					
tac	cag	aag	gag	tct	aac	tac	aac	cgg	ctg	aag	agg	gcc	aag	atg	gac	1680
Tyr	Gln	Lys	Glu	Ser	Asn	Tyr	Asn	Arg	Leu	Lys	Arg	Ala	Lys	Met	Asp	
545					550					555					560	
aag	tcc	atg	ttt	gtg	aaa	atc	aag	act	cta	ggc	atc	ggg	gcc	ttt	ggg	1728
Lys	Ser	Met	Phe	Val	Lys	Ile	Lys	Thr	Leu	Gly	Ile	Gly	Ala	Phe	Gly	
				565					570					575		
gaa	gtg	tgc	ctc	gct	tgt	aag	ctg	gac	act	cac	gct	ctg	tac	gcc	atg	1776
Glu	Val	Cys	Leu	Ala	Cys	Lys	Leu	Asp	Thr	His	Ala	Leu	Tyr	Ala	Met	
			580					585					590			
aag	act	ctc	agg	aag	aag	gat	gtc	ctg	aac	cgg	aat	caa	gtg	gcc	cat	1824
Lys	Thr	Leu	Arg	Lys	Lys	Asp	Val	Leu	Asn	Arg	Asn	Gln	Val	Ala	His	
		595				600						605				
gtc	aag	gct	gag	agg	gac	atc	ctg	gct	gaa	gca	gac	aat	gag	tgg	gtg	1872
Val	Lys	Ala	Glu	Arg	Asp	Ile	Leu	Ala	Glu	Ala	Asp	Asn	Glu	Trp	Val	
	610				615						620					
gtc	aaa	ctc	tac	tac	tcc	ttc	cag	gac	aag	gac	agc	ctg	tac	ttt	gtg	1920
Val	Lys	Leu	Tyr	Tyr	Ser	Phe	Gln	Asp	Lys	Asp	Ser	Leu	Tyr	Phe	Val	
625					630					635					640	
atg	gac	tac	ata	cca	ggc	ggg	gat	atg	atg	agc	ctg	ctg	atc	agg	atg	1968
Met	Asp	Tyr	Ile	Pro	Gly	Gly	Asp	Met	Met	Ser	Leu	Leu	Ile	Arg	Met	
				645					650					655		
gag	gtc	ttc	cct	gag	cac	ctg	gcc	cgc	ttc	tac	att	gca	gag	ttg	acc	2016
Glu	Val	Phe	Pro	Glu	His	Leu	Ala	Arg	Phe	Tyr	Ile	Ala	Glu	Leu	Thr	
			660					665					670			
ctg	gcc	att	gaa	agt	gtc	cac	aag	atg	ggc	ttt	atc	cac	cgg	gac	atc	2064
Leu	Ala	Ile	Glu	Ser	Val	His	Lys	Met	Gly	Phe	Ile	His	Arg	Asp	Ile	
		675					680					685				

aag cct gac aac ata ctc atc gac ctg gat ggt cat att aag ctg aca	2112
Lys Pro Asp Asn Ile Leu Ile Asp Leu Asp Gly His Ile Lys Leu Thr	
690 695 700	
gat ttt ggc ctc tgc act gga ttc agg tgg act cac aat tcc aag tac	2160
Asp Phe Gly Leu Cys Thr Gly Phe Arg Trp Thr His Asn Ser Lys Tyr	
705 710 715 720	
tac cag aaa ggg aac cac atg aga cag gac agc atg gag ccc ggt gac	2208
Tyr Gln Lys Gly Asn His Met Arg Gln Asp Ser Met Glu Pro Gly Asp	
725 730 735	
ctc tgg gac gat gtt tcc aac tgt cgc tgt gga gac agg tta aag acc	2256
Leu Trp Asp Asp Val Ser Asn Cys Arg Cys Gly Asp Arg Leu Lys Thr	
740 745 750	
ctg gag cag agg gcg cag aag cag cac cag agg tgc ctg gca cat tct	2304
Leu Glu Gln Arg Ala Gln Lys Gln His Gln Arg Cys Leu Ala His Ser	
755 760 765	
ctt gtc ggg aca cca aat tac atc gct ccg gag gtg ctt ctc cgc aaa	2352
Leu Val Gly Thr Pro Asn Tyr Ile Ala Pro Glu Val Leu Leu Arg Lys	
770 775 780	
ggg tac acg cag ctc tgt gac tgg tgg agc gtc ggt gtg att ctc ttt	2400
Gly Tyr Thr Gln Leu Cys Asp Trp Trp Ser Val Gly Val Ile Leu Phe	
785 790 795 800	
gag atg ctg gtt ggg cag ccg cct ttc ttg gcc ccc acc ccc aca gag	2448
Glu Met Leu Val Gly Gln Pro Pro Phe Leu Ala Pro Thr Pro Thr Glu	
805 810 815	
acg cag ctg aag gtg atc aac tgg gag agc acg ctg cat atc cct acg	2496
Thr Gln Leu Lys Val Ile Asn Trp Glu Ser Thr Leu His Ile Pro Thr	
820 825 830	
cag gtg agg ctc agc gct gag gcc cga gac ctc atc acg aag ctg tgc	2544
Gln Val Arg Leu Ser Ala Glu Ala Arg Asp Leu Ile Thr Lys Leu Cys	
835 840 845	
tgc gcg gct gac tgc cgc ctg ggc agg gat ggg gca gat gac ctc aag	2592
Cys Ala Ala Asp Cys Arg Leu Gly Arg Asp Gly Ala Asp Asp Leu Lys	
850 855 860	
gca cac ccg ttc ttc aac acc atc gac ttt tcc cgt gac atc cga aag	2640
Ala His Pro Phe Phe Asn Thr Ile Asp Phe Ser Arg Asp Ile Arg Lys	
865 870 875 880	
cag gct gca ccc tac gtc ccc acc atc agc cac ccc atg gac acc tcc	2688
Gln Ala Ala Pro Tyr Val Pro Thr Ile Ser His Pro Met Asp Thr Ser	
885 890 895	
aat ttt gac ccg gtg gat gaa gaa agc ccc tgg cac gag gcc agc gga	2736
Asn Phe Asp Pro Val Asp Glu Glu Ser Pro Trp His Glu Ala Ser Gly	
900 905 910	

gag agc gcc aag gcc tgg gac acg ctg gcc tcc ccc agc agc aag cat 2784
 Glu Ser Ala Lys Ala Trp Asp Thr Leu Ala Ser Pro Ser Ser Lys His
 915 920 925

cca gag cac gcc ttc tat gag ttc acc ttc cgc agg ttc ttc gat gac 2832
 Pro Glu His Ala Phe Tyr Glu Phe Thr Phe Arg Arg Phe Phe Asp Asp
 930 935 940

aac ggc tat ccc ttc cgg tgc ccg aag ccc tca gag ccc gca gag agt 2880
 Asn Gly Tyr Pro Phe Arg Cys Pro Lys Pro Ser Glu Pro Ala Glu Ser
 945 950 955 960

gca gac cca ggg gat gcg gac ttg gaa ggt gcg gcc gag ggc tgc cag 2928
 Ala Asp Pro Gly Asp Ala Asp Leu Glu Gly Ala Ala Glu Gly Cys Gln
 965 970 975

ccg gtg tac gtg taagcctcag ttaaccacaa ctgaggaaa cccaaaatga 2980
 Pro Val Tyr Val
 980

gatttctttt cagaagacaa actcaagctt aggaatcctt catttttagt tctggtaaatt 3040

gggcaacagg aagagtcaac atgatttcaa attagccctc tgaggacctt cactgcatta 3100

aaacagtatt ttttaaaaaa ttagtacagt atggaaagag cacttatttt gggggg 3155

<210> 6
 <211> 980
 <212> PRT
 <213> Mus musculus

<400> 6
 Met Arg Ala Thr Pro Lys Phe Gly Pro Tyr Gln Lys Ala Leu Arg Glu
 1 5 10 15

Ile Arg Tyr Ser Leu Leu Pro Phe Ala Asn Glu Ser Gly Thr Ser Ala
 20 25 30

Ala Ala Glu Val Asn Arg Gln Met Leu Gln Glu Leu Val Asn Ala Ala
 35 40 45

Cys Asp Gln Glu Met Ala Gly Arg Ala Leu Thr Gln Thr Gly Ser Arg
 50 55 60

Ser Ile Glu Ala Ala Leu Glu Tyr Ile Ser Lys Met Gly Tyr Leu Asp
 65 70 75 80

Pro Arg Asn Glu Gln Ile Val Arg Val Ile Lys Gln Thr Ser Pro Gly
 85 90 95

Lys Gly Leu Ala Ser Thr Pro Val Thr Arg Arg Pro Ser Phe Glu Gly
 100 105 110

Thr Gly Glu Ala Leu Pro Ser Tyr His Gln Leu Gly Gly Ala Asn Tyr
 115 120 125

Glu Gly Pro Ala Ala Leu Glu Glu Met Pro Arg Gln Tyr Leu Asp Phe
 130 135 140
 Leu Phe Pro Gly Ala Gly Ala Gly Thr His Gly Ala Gln Ala His Gln
 145 150 155 160
 His Pro Pro Lys Gly Tyr Ser Thr Ala Val Glu Pro Ser Ala His Phe
 165 170 175
 Pro Gly Thr His Tyr Gly Arg Gly His Leu Leu Ser Glu Gln Ser Gly
 180 185 190
 Tyr Gly Val Gln Arg Ser Ser Ser Phe Gln Asn Lys Thr Pro Pro Asp
 195 200 205
 Ala Tyr Ser Ser Met Ala Lys Ala Gln Gly Gly Pro Pro Ala Ser Leu
 210 215 220
 Thr Phe Pro Ala His Ala Gly Leu Tyr Thr Ala Ser His His Lys Pro
 225 230 235 240
 Ala Ala Thr Pro Pro Gly Ala His Pro Leu His Val Leu Gly Thr Arg
 245 250 255
 Gly Pro Thr Phe Thr Gly Glu Ser Ser Ala Gln Ala Val Leu Ala Pro
 260 265 270
 Ser Arg Asn Ser Leu Asn Ala Asp Leu Tyr Glu Leu Gly Ser Thr Val
 275 280 285
 Pro Trp Ser Ala Ala Pro Leu Ala Arg Arg Asp Ser Leu Gln Lys Gln
 290 295 300
 Gly Leu Glu Ala Ser Arg Pro His Val Ala Phe Arg Ala Gly Pro Ser
 305 310 315 320
 Arg Thr Asn Ser Phe Asn Asn Pro Gln Pro Glu Pro Ser Leu Pro Ala
 325 330 335
 Pro Asn Thr Val Thr Ala Val Thr Ala Ala His Ile Leu His Pro Val
 340 345 350
 Lys Ser Val Arg Val Leu Arg Pro Glu Pro Gln Thr Ala Val Gly Pro
 355 360 365
 Ser His Pro Ala Trp Val Ala Ala Pro Thr Ala Pro Ala Thr Glu Ser
 370 375 380
 Leu Glu Thr Lys Glu Gly Ser Ala Gly Pro His Pro Leu Asp Val Asp
 385 390 395 400
 Tyr Gly Gly Ser Glu Arg Arg Cys Pro Pro Pro Tyr Pro Lys His
 405 410 415
 Leu Leu Leu Pro Ser Lys Ser Glu Gln Tyr Ser Val Asp Leu Asp Ser
 420 425 430

Leu Cys Thr Ser Val Gln Gln Ser Leu Arg Gly Gly Thr Asp Leu Asp
 435 440 445
 Gly Ser Asp Lys Ser His Lys Gly Ala Lys Gly Asp Lys Ala Gly Arg
 450 455 460
 Asp Lys Lys Gln Ile Gln Thr Ser Pro Val Pro Val Arg Lys Asn Ser
 465 470 475 480
 Arg Asp Glu Glu Lys Arg Glu Ser Arg Ile Lys Ser Tyr Ser Pro Tyr
 485 490 495
 Ala Phe Lys Phe Phe Met Glu Gln His Val Glu Asn Val Ile Lys Thr
 500 505 510
 Tyr Gln Gln Lys Val Ser Arg Arg Leu Gln Leu Glu Gln Glu Met Ala
 515 520 525
 Lys Ala Gly Leu Cys Glu Ala Glu Gln Glu Gln Met Arg Lys Ile Leu
 530 535 540
 Tyr Gln Lys Glu Ser Asn Tyr Asn Arg Leu Lys Arg Ala Lys Met Asp
 545 550 555 560
 Lys Ser Met Phe Val Lys Ile Lys Thr Leu Gly Ile Gly Ala Phe Gly
 565 570 575
 Glu Val Cys Leu Ala Cys Lys Leu Asp Thr His Ala Leu Tyr Ala Met
 580 585 590
 Lys Thr Leu Arg Lys Lys Asp Val Leu Asn Arg Asn Gln Val Ala His
 595 600 605
 Val Lys Ala Glu Arg Asp Ile Leu Ala Glu Ala Asp Asn Glu Trp Val
 610 615 620
 Val Lys Leu Tyr Tyr Ser Phe Gln Asp Lys Asp Ser Leu Tyr Phe Val
 625 630 635 640
 Met Asp Tyr Ile Pro Gly Gly Asp Met Met Ser Leu Leu Ile Arg Met
 645 650 655
 Glu Val Phe Pro Glu His Leu Ala Arg Phe Tyr Ile Ala Glu Leu Thr
 660 665 670
 Leu Ala Ile Glu Ser Val His Lys Met Gly Phe Ile His Arg Asp Ile
 675 680 685
 Lys Pro Asp Asn Ile Leu Ile Asp Leu Asp Gly His Ile Lys Leu Thr
 690 695 700
 Asp Phe Gly Leu Cys Thr Gly Phe Arg Trp Thr His Asn Ser Lys Tyr
 705 710 715 720
 Tyr Gln Lys Gly Asn His Met Arg Gln Asp Ser Met Glu Pro Gly Asp
 725 730 735

Leu Trp Asp Asp Val Ser Asn Cys Arg Cys Gly Asp Arg Leu Lys Thr
 740 745 750
 Leu Glu Gln Arg Ala Gln Lys Gln His Gln Arg Cys Leu Ala His Ser
 755 760 765
 Leu Val Gly Thr Pro Asn Tyr Ile Ala Pro Glu Val Leu Leu Arg Lys
 770 775 780
 Gly Tyr Thr Gln Leu Cys Asp Trp Trp Ser Val Gly Val Ile Leu Phe
 785 790 795 800
 Glu Met Leu Val Gly Gln Pro Pro Phe Leu Ala Pro Thr Pro Thr Glu
 805 810 815
 Thr Gln Leu Lys Val Ile Asn Trp Glu Ser Thr Leu His Ile Pro Thr
 820 825 830
 Gln Val Arg Leu Ser Ala Glu Ala Arg Asp Leu Ile Thr Lys Leu Cys
 835 840 845
 Cys Ala Ala Asp Cys Arg Leu Gly Arg Asp Gly Ala Asp Asp Leu Lys
 850 855 860
 Ala His Pro Phe Phe Asn Thr Ile Asp Phe Ser Arg Asp Ile Arg Lys
 865 870 875 880
 Gln Ala Ala Pro Tyr Val Pro Thr Ile Ser His Pro Met Asp Thr Ser
 885 890 895
 Asn Phe Asp Pro Val Asp Glu Glu Ser Pro Trp His Glu Ala Ser Gly
 900 905 910
 Glu Ser Ala Lys Ala Trp Asp Thr Leu Ala Ser Pro Ser Ser Lys His
 915 920 925
 Pro Glu His Ala Phe Tyr Glu Phe Thr Phe Arg Arg Phe Phe Asp Asp
 930 935 940
 Asn Gly Tyr Pro Phe Arg Cys Pro Lys Pro Ser Glu Pro Ala Glu Ser
 945 950 955 960
 Ala Asp Pro Gly Asp Ala Asp Leu Glu Gly Ala Ala Glu Gly Cys Gln
 965 970 975
 Pro Val Tyr Val
 980

<210> 7
 <211> 5720
 <212> DNA
 <213> *Drosophila melanogaster*

<220>
 <221> CDS
 <222> (1103) .. (4399)

<220>

```

<221> variation
<222> (81)..(82)
<223> aat

<220>
<221> variation
<222> (606)..(607)
<223> agcag

<220>
<221> variation
<222> (1372)..(1817)
<223> Lats-al deletion

<220>
<221> variation
<222> (2645)..(2646)
<223> gggagcggatcaac

<220>
<221> variation
<222> (2556)..(2557)
<223> aay

<220>
<221> variation
<222> (5151)..(5171)
<223> gtggccccctccctccccctcctcat

<220>
<221> variation
<222> (4828)..(4836)
<223> Deleted

<220>
<221> variation
<222> (5720)..(5720)
<223> aaagcaaattaataaat

<220>
<221> Intron
<222> (302)..(303)
<223> Intron 1

<220>
<221> Intron
<222> (1225)..(1226)
<223> Intron 2

<220>
<221> Intron
<222> (3488)..(3489)
<223> Intron 3

<220>
<221> Intron
<222> (3609)..(3610)
<223> Intron 4

```

<220>
 <221> Intron
 <222> (3726)..(3727)
 <223> Intron 5

<220>
 <221> Intron
 <222> (3804)..(3805)
 <223> Intron 6

<220>
 <221> Intron
 <222> (4000)..(4001)
 <223> Intron 7

<220>
 <221> polyA_signal
 <222> (4654)..(4660)

<400> 7
 atctagcacg acggcagcaa caaaaccacg aattaatttt actaaattta agccaaacgc 60
 gcatcggaat tgcctgaaaa tgcgattgaa tgcacgcgaa aagtgatggg ttgcgaacgc 120
 gagtgaatca agtgaataa cgtcggcaaa tatcagcgaa ttgtcgtcaa aaggcaagga 180
 aaaacggaga aaaagaggaa aagcaataag tgccgtgtgt gggaaacgcg aaaaaggcga 240
 gaacaaagag gcgaaaagcg aggaaattgc gtggaaaacg tggaaaacgc gaagaagcga 300
 agtccaagt tggcgcgcat cgattcgtgy gtaggatcaa ttaagattcc gagtgggtcga 360
 gaatcggctc aaatcaaatt aaaatcaact aatatttttg tattcagata ttcaaattgga 420
 attcattcat cgcctgcgac ttttattcgg atctgccaac tatttttgaa tttgaattgt 480
 gtgtctgcgg ctggcgcgaga atctctgata aagcagagga ataaaatcgg aagaacaaca 540
 aatacaata caaatgaaat gcgggggagca gtattttacat gccaaatgaa tgctggatag 600
 gcgaaagggg gggttttctct tataatgcaa atgtgaatgt gaatgcgaat gcgaatgcga 660
 gtggaagaat tcccggcgcg agtgataaat aatccgacga caaacaagc agaagcctac 720
 accgcgagaa agagcagcgc aaacacaatt atctttattg agagcaacaa tatcaagatc 780
 gagataataa agcatcctaa aaccgcgccc ttagttcgtt ytagtctcgc cacrgatata 840
 gatattcaaa ggcaaaaagg tgggtgtcggc atcgccagac aaacaagtaa agcatctatt 900
 tcatacaaaa caaccaatta aataataata aaaataataa taatcgtaga gaggcagagc 960
 caaatcaaat tcccggcgcg cgatgtgccc cagtgtgtgt gcgtgtgtgt gtgtgtgtgc 1020
 tgtgtgtgtc tgtgcgagtg ttagtgtgcg gagcatttct gtgatatgag tgctaaatgc 1080
 cacagggcga agcagcagca tc atg cat cca gcg ggc gaa aaa agg ggc ggt 1132
 Met His Pro Ala Gly Glu Lys Arg Gly Gly
 1 5 10
 cgc ccc aat gat aaa tac acg gcg gaa gcc ctc gag agc atc aag cag 1180
 Arg Pro Asn Asp Lys Tyr Thr Ala Glu Ala Leu Glu Ser Ile Lys Gln
 15 20 25
 gac cta acc cga ttt gaa gta caa aat aac cat agg aat aat cag aat 1228
 Asp Leu Thr Arg Phe Glu Val Gln Asn Asn His Arg Asn Asn Gln Asn
 30 35 40
 tac aca cct ctg cga tac acg gcg acc aac gga cgc aac gat gca ctt 1276
 Tyr Thr Pro Leu Arg Tyr Thr Ala Thr Asn Gly Arg Asn Asp Ala Leu
 45 50 55
 act cct gac tat cac cac gcc aag cag ccg atg gag ccg cca ccc tcc 1324
 Thr Pro Asp Tyr His His Ala Lys Gln Pro Met Glu Pro Pro Pro Ser
 60 65 70
 gcc tct cct gct ccg gac gtg gtc ata ccg ccg ccg ccc gcc att gta 1372
 Ala Ser Pro Ala Pro Asp Val Val Ile Pro Pro Pro Pro Ala Ile Val
 75 80 85 90

ggt cag ccc gga gcc ggc tcc ata tcc gta tcc ggt gtg ggc gtt gga	1420
Gly Gln Pro Gly Ala Gly Ser Ile Ser Val Ser Gly Val Gly Val Gly	
95 100 105	
gtg gtg ggt gtg gcg aac gga cgt gts cca aag atg atg acg gcc cta	1468
Val Val Gly Val Ala Asn Gly Arg Val Pro Lys Met Met Thr Ala Leu	
110 115 120	
atg cca aac aaa ctg atc cgg aag ccg agc atc gaa cgg gac acg gcg	1516
Met Pro Asn Lys Leu Ile Arg Lys Pro Ser Ile Glu Arg Asp Thr Ala	
125 130 135	
agc agt cac tac ctg cgc tgc agt ccg gct ctg gac tcc gga gcc ggt	1564
Ser Ser His Tyr Leu Arg Cys Ser Pro Ala Leu Asp Ser Gly Ala Gly	
140 145 150	
agc tcc cga tcg gac agc ccc cat tcg cac cac acc cac cag ccg agc	1612
Ser Ser Arg Ser Asp Ser Pro His Ser His Thr His Gln Pro Ser	
155 160 165 170	
tcg agg acg gtg ggt aat cca ggt gga aat ggt gga ttt tct ccg tcg	1660
Ser Arg Thr Val Gly Asn Pro Gly Gly Asn Gly Gly Phe Ser Pro Ser	
175 180 185	
cca agc ggt ttc agt gag gtg gct cca ccg gcg ccg ccg cca cgc aat	1708
Pro Ser Gly Phe Ser Glu Val Ala Pro Pro Ala Pro Pro Pro Arg Asn	
190 195 200	
ccc acc gcc tsc agc gcg gcc acg ccc cca ccg cca gtg ccg ccc acc	1756
Pro Thr Ala Xaa Ser Ala Ala Thr Pro Pro Pro Pro Val Pro Pro Thr	
205 210 215	
agc cag gcg tac gtg aag cgg cga tca ccg gcc ctg aac cgc ccg	1804
Ser Gln Ala Tyr Val Lys Arg Arg Ser Pro Ala Leu Asn Asn Arg Pro	
220 225 230	
ccg gcg ata gcg cca ccc act cag cgm ggc aac tca cct gta ata acc	1852
Pro Ala Ile Ala Pro Pro Thr Gln Arg Gly Asn Ser Pro Val Ile Thr	
235 240 245 250	
car aac ggg ctg aag aac ccg cag cag cag ttg acg cag cag ctg aag	1900
Gln Asn Gly Leu Lys Asn Pro Gln Gln Gln Leu Thr Gln Gln Leu Lys	
255 260 265	
tcc ctg aac cta tac cca ggc gga ggc agt gga gca gtk gtg gag cca	1948
Ser Leu Asn Leu Tyr Pro Gly Gly Gly Ser Gly Ala Val Val Glu Pro	
270 275 280	
ccg ccg ccc tac cta att caa ggc gga gcc gga gga gca gca ccg ccg	1996
Pro Pro Pro Tyr Leu Ile Gln Gly Gly Ala Gly Gly Ala Ala Pro Pro	
285 290 295	
ccg cca cca ccc agt tac acg gcc tcc atg cag tcg ccg cag tcg ccc	2044
Pro Pro Pro Pro Ser Tyr Thr Ala Ser Met Gln Ser Arg Gln Ser Pro	
300 305 310	
aca caa tcc caa caa tcg gac tac agg aaa tcc ccg agc agt ggg ata	2092
Thr Gln Ser Gln Gln Ser Asp Tyr Arg Lys Ser Pro Ser Ser Gly Ile	
315 320 325 330	
tac tcg gcc acc tcg gcg ggc tcg ccg agc ccc ata act gtg tcs ctg	2140
Tyr Ser Ala Thr Ser Ala Gly Ser Pro Ser Pro Ile Thr Val Ser Leu	
335 340 345	
ccg ccg gcg ccg ctg gcg aag cca caa cca cga gtc tac cag gcc agg	2188
Pro Pro Ala Pro Leu Ala Lys Pro Gln Pro Arg Val Tyr Gln Ala Arg	
350 355 360	
agt cag cag ccg atc atc atg cag agt gtg aag agc acg cag gtc caa	2236
Ser Gln Gln Pro Ile Ile Met Gln Ser Val Lys Ser Thr Gln Val Gln	
365 370 375	
aag ccc gtg ctg caa aca gca gtg gcg cgc caa tcg cca tcg agt gcc	2284
Lys Pro Val Leu Gln Thr Ala Val Ala Arg Gln Ser Pro Ser Ser Ala	
380 385 390	

tcg gcc agc aat tca cca gtc cac gtg ctg gcc gct cca ccc tct tac	2332
Ser Ala Ser Asn Ser Pro Val His Val Leu Ala Ala Pro Pro Ser Tyr	
395 400 405 410	
cct cag aag tcc gcg gca gtg gtg cag cag cag caa cag gca gca gcg	2380
Pro Gln Lys Ser Ala Ala Val Val Gln Gln Gln Gln Ala Ala Ala	
415 420 425	
gcg gcc cac cag cag cag cat cag cac cag caa tcc aaa cca cca acg	2428
Ala Ala His Gln Gln Gln His Gln His Gln Gln Ser Lys Pro Pro Thr	
430 435 440	
ccm acc aca ccg ccc ttg gtg ggt ctg aay agc aag ccc aat tgc ctg	2476
Pro Thr Thr Pro Pro Leu Val Gly Leu Asn Ser Lys Pro Asn Cys Leu	
445 450 455	
gag cca ccg tcc tat gcc aag agc atg cag gcc aag gcg gcc acg gtg	2524
Glu Pro Pro Ser Tyr Ala Lys Ser Met Gln Ala Lys Ala Ala Thr Val	
460 465 470	
gta rag cag cag caa cag cag cag car car cag cag gtc cag cag cag	2572
Val Xaa Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Val Gln Gln Gln	
475 480 485 490	
cag gtg caa cag cag cag car cag cag caa cag caa ctg cag gcc ttg	2620
Gln Val Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Leu Gln Ala Leu	
495 500 505	
agg gtg ctc cag gca cag gct cag agg gag cgg gat caa cgg gag cgg	2668
Arg Val Leu Gln Ala Gln Ala Gln Arg Glu Arg Asp Gln Arg Glu Arg	
510 515 520	
gaa cgg gat cag cag aag ctg gcc aac gga aat cct ggc cgg cag atg	2716
Glu Arg Asp Gln Gln Lys Leu Ala Asn Gly Asn Pro Gly Arg Gln Met	
525 530 535	
ctt ccg ccg ccg ccc tat cag agc aac aac aac aac aac agc gag atc	2764
Leu Pro Pro Pro Pro Tyr Gln Ser Asn Asn Asn Asn Asn Ser Glu Ile	
540 545 550	
aaa ccg ccg agc tgc aac aac aac aac ata cag ata agc aac agc aac	2812
Lys Pro Pro Ser Cys Asn Asn Asn Asn Ile Gln Ile Ser Asn Ser Asn	
555 560 565 570	
ctg gcg acg aca cca ccc att ccg cct gcc aaa tac aat aac aac tcc	2860
Leu Ala Thr Thr Pro Pro Ile Pro Pro Ala Lys Tyr Asn Asn Asn Ser	
575 580 585	
tcc aac acg ggc gcg aat agc tcg ggc ggc agc aac gga tcc acc ggc	2908
Ser Asn Thr Gly Ala Asn Ser Ser Gly Gly Ser Asn Gly Ser Thr Gly	
590 595 600	
acc acc gcc tcc tcg tcg acc agc tgc aag aag atc aag cac gcc tcg	2956
Thr Thr Ala Ser Ser Ser Thr Ser Cys Lys Lys Ile Lys His Ala Ser	
605 610 615	
ccc atc ccg gag cgc aag aag atc tcc aag gag aag gag gag gag cgc	3004
Pro Ile Pro Glu Arg Lys Lys Ile Ser Lys Glu Lys Glu Glu Glu Arg	
620 625 630	
aag gag ttc cgc atc agg cag tac tcg ccg caa gcc ttc aag ttc ttc	3052
Lys Glu Phe Arg Ile Arg Gln Tyr Ser Pro Gln Ala Phe Lys Phe Phe	
635 640 645 650	
atg gag cag cac ata gag aac gtg atc aag tcg tat cgc cag cgc acg	3100
Met Glu Gln His Ile Glu Asn Val Ile Lys Ser Tyr Arg Gln Arg Thr	
655 660 665	
tat cgc aag aat cag ctg gag aag gag atg cac aaa gtg gga ctg ccc	3148
Tyr Arg Lys Asn Gln Leu Glu Lys Glu Met His Lys Val Gly Leu Pro	
670 675 680	
gat cag acc caa atc gag atg agg aaa atg ctg aac caa aag gag agc	3196
Asp Gln Thr Gln Ile Glu Met Arg Lys Met Leu Asn Gln Lys Glu Ser	
685 690 695	

aac tac att cga ttg aag cgc gcc aag atg gac aag agc atg ttc gtc	3244
Asn Tyr Ile Arg Leu Lys Arg Ala Lys Met Asp Lys Ser Met Phe Val	
700 705 710	
aaa ctg aag ccc att gga gtg ggt gca ttt ggc gag gta acg ctg gtg	3292
Lys Leu Lys Pro Ile Gly Val Gly Ala Phe Gly Glu Val Thr Leu Val	
715 720 725 730	
agc aaa atc gat acc tcg aac cat ttg tat gcg atg aaa acc ctg cgg	3340
Ser Lys Ile Asp Thr Ser Asn His Leu Tyr Ala Met Lys Thr Leu Arg	
735 740 745	
aaa gcg gac gtt ctc aag cgg aat cag gtg gca cac gtg aag gcc gag	3388
Lys Ala Asp Val Leu Lys Arg Asn Gln Val Ala His Val Lys Ala Glu	
750 755 760	
agg gat atc ctc gcg gaa gcc gac aat aac tgg gtg gtg aag ttg tac	3436
Arg Asp Ile Leu Ala Glu Ala Asp Asn Asn Trp Val Val Lys Leu Tyr	
765 770 775	
tac agc ttc cag gac aag gat aat ctg tac ttt gtg atg gac tac ata	3484
Tyr Ser Phe Gln Asp Lys Asp Asn Leu Tyr Phe Val Met Asp Tyr Ile	
780 785 790	
cca ggt ggt gat ctg atg tcg ctg ctc atc aaa ctg ggc att ttc gag	3532
Pro Gly Gly Asp Leu Met Ser Leu Leu Ile Lys Leu Gly Ile Phe Glu	
795 800 805 810	
gag gaa ctg gcc aga ttc tac atc gcc gag gtc acc tgc gcc gtg gac	3580
Glu Glu Leu Ala Arg Phe Tyr Ile Ala Glu Val Thr Cys Ala Val Asp	
815 820 825	
agc gtt cac aaa atg ggc ttc att cac aga gac atc aag cct gac aac	3628
Ser Val His Lys Met Gly Phe Ile His Arg Asp Ile Lys Pro Asp Asn	
830 835 840	
ata ctc atc gat agg gac gga cac ata aag ctc acc gac ttt ggc ctg	3676
Ile Leu Ile Asp Arg Asp Gly His Ile Lys Leu Thr Asp Phe Gly Leu	
845 850 855	
tgc acg gga ttc cga tgg acg cac aac tcg aag tac tac cag gag aac	3724
Cys Thr Gly Phe Arg Trp Thr His Asn Ser Lys Tyr Tyr Gln Glu Asn	
860 865 870	
ggc aat cac tcg cgc cag gac tcg atg gag ccc tgg gag gaa tac tcc	3772
Gly Asn His Ser Arg Gln Asp Ser Met Glu Pro Trp Glu Glu Tyr Ser	
875 880 885 890	
gag aac gga ccg aag ccc acc gtg ctg gag agg cga cgg atg cgc gat	3820
Glu Asn Gly Pro Lys Pro Thr Val Leu Glu Arg Arg Arg Met Arg Asp	
895 900 905	
cac caa aga gtc ctg gcc cac tcg ctg gtg ggc acc ccg aac tac ata	3868
His Gln Arg Val Leu Ala His Ser Leu Val Gly Thr Pro Asn Tyr Ile	
910 915 920	
gct ccc gag gtg ctg gag agr agt ggg tac acg cag ctg tgc gac tac	3916
Ala Pro Glu Val Leu Glu Arg Ser Gly Tyr Thr Gln Leu Cys Asp Tyr	
925 930 935	
tgg agc gtg ggc gtc atc cty tay gag atg ctg gtg ggt cag ccg ccc	3964
Trp Ser Val Gly Val Ile Leu Tyr Glu Met Leu Val Gly Gln Pro Pro	
940 945 950	
ttt ctg gcc aac agt ccg ctg gaa acg caa caa aag gtc atc aac tgg	4012
Phe Leu Ala Asn Ser Pro Leu Glu Thr Gln Gln Lys Val Ile Asn Trp	
955 960 965 970	
gag aaa acs ctg cat att ccg ccg cag gcc tta tcc cgc gag gct	4060
Glu Lys Thr Leu His Ile Pro Pro Gln Ala Glu Leu Ser Arg Glu Ala	
975 980 985	
acg gac ttg ata agg agg ctc tgt gcg tcg gct gac aag cgg ctg ggc	4108
Thr Asp Leu Ile Arg Arg Leu Cys Ala Ser Ala Asp Lys Arg Leu Gly	
990 995 1000	

aag agc gtg gac gag gtc aag agc cac gac ttc ttc aag ggc atc	4153
Lys Ser Val Asp Glu Val Lys Ser His Asp Phe Phe Lys Gly Ile	
1005 1010 1015	
gac ttt gcg gac atg cgg aag cag aaa gcg ccc tac ata ccg gaa	4198
Asp Phe Ala Asp Met Arg Lys Gln Lys Ala Pro Tyr Ile Pro Glu	
1020 1025 1030	
atc aag cac ccr acg gac aca tcc aac ttt gat ccc gtg gat ccg	4243
Ile Lys His Pro Thr Asp Thr Ser Asn Phe Asp Pro Val Asp Pro	
1035 1040 1045	
gag aag ctg cgc tcg aat gac tcc acc atg agc agc ggc gat gat	4288
Glu Lys Leu Arg Ser Asn Asp Ser Thr Met Ser Ser Gly Asp Asp	
1050 1055 1060	
gtc gac cag aat gac cgc acy ttc cac ggc ttt ttc gaa ttt acc	4333
Val Asp Gln Asn Asp Arg Thr Phe His Gly Phe Phe Glu Phe Thr	
1065 1070 1075	
ttc cgt cgc ttc ttc gac gac aag cag ccg ccg gat atg acg gac	4378
Phe Arg Arg Phe Phe Asp Asp Lys Gln Pro Pro Asp Met Thr Asp	
1080 1085 1090	
gat cag gcg ccg gtt tac gtc tgaaatggat gctctccatg tgcccaacac	4429
Asp Gln Ala Pro Val Tyr Val	
1095	
caacaccccg cccccgaatc attgttagtc aaatagtcac aaaaagggga tagaaaccat	4489
tgagtgggct tgcattgtaa aggaagcgtg gctatagaat gaaactatct atatacatta	4549
tataaattat aggagacagt agaggcggga gctacgtata tacatacaaa taatatacat	4609
atatttgata tatatatata tatatatgcc gtagggcgatg aactgaataa atataaaacg	4669
gagccgagta gagatgaaac gagaggagcg agtcaggacc ttcgaccttt aactgaacat	4729
agtatatcct tgtgcactac tactccacaa caaatatata tttttaaatt gttagaattc	4789
aaaagggrrc aactggaaat cgaacctttc tgggtgctcaa agcaaagcaa agcaaagcaa	4849
aacaaaacgc cttaactaa aygagacgcg aatttaccca accacttcac tcctctcctt	4909
tctccacctc cgatcggtgg ccggattcga actcagcagg ctgggttgcac ccggccatcc	4969
cattkacttc ccattcagaa ttgagattgc gaggtgtgcg atggagaacg aacggagacc	5029
aaaagtgcga cggcagcgat ataagcgggt cttataagcc taatctaaat ctaaactggg	5089
agaacaggac cyatgtatgt cctgctatcc aattcgtcta tcaactgctc tcawctgwtg	5149
acgaccccca cccccccct ccccatccaa aagaacaaac ttagacgtag cctatgtgaa	5209
aagctagcaa tgtagacca acttggttgaa tgccaaatga aattgttttag cccacgagg	5269
aaaacgcggg ggaaattcaa cacttattct ctgatagcaa acggaaaaga aagaaagaaa	5329
aaaaaaaaa gaaacagtac gagaaaattg taatcttctt aatgtaatat tgtaaagaac	5389
acgttaattg taatctatgc tagagtgtgt tagcgcccta agatgttttt tagtttatag	5449
accgctaacc gtaatctagt ttaattccta acactaagcg agagtacagt acattgggtt	5509
ttttgtttgt cgtaggttcg ttggaaaatg cttaacggga aacgatttgt ttttctcttt	5569
aattagcttc agtttgtatg tgcgtgtgtt tttattatga cttatatata gtccatctga	5629
atattcgtgg atggagccta ttttaaattg gagatcgagc taattgaagg aaatacaaac	5689
aaactctgtg tgccttggcc aattagttta c	5720

<210> 8
 <211> 1099
 <212> PRT
 <213> Drosophila melanogaster

<220>
 <221> VARIANT
 <222> 206
 <223> Xaa = Lys, Ser

<220>
 <221> VARIANT
 <222> 476
 <223> Xaa = Lys, Glu

<400> 8

Met	His	Pro	Ala	Gly	Glu	Lys	Arg	Gly	Gly	Arg	Pro	Asn	Asp	Lys	Tyr
1				5					10					15	
Thr	Ala	Glu	Ala	Leu	Glu	Ser	Ile	Lys	Gln	Asp	Leu	Thr	Arg	Phe	Glu
			20					25					30		
Val	Gln	Asn	Asn	His	Arg	Asn	Asn	Gln	Asn	Tyr	Thr	Pro	Leu	Arg	Tyr
		35					40					45			
Thr	Ala	Thr	Asn	Gly	Arg	Asn	Asp	Ala	Leu	Thr	Pro	Asp	Tyr	His	His
	50					55					60				
Ala	Lys	Gln	Pro	Met	Glu	Pro	Pro	Pro	Ser	Ala	Ser	Pro	Ala	Pro	Asp
65					70					75					80
Val	Val	Ile	Pro	Pro	Pro	Pro	Ala	Ile	Val	Gly	Gln	Pro	Gly	Ala	Gly
				85					90					95	
Ser	Ile	Ser	Val	Ser	Gly	Val	Gly	Val	Gly	Val	Val	Gly	Val	Ala	Asn
			100					105					110		
Gly	Arg	Val	Pro	Lys	Met	Met	Thr	Ala	Leu	Met	Pro	Asn	Lys	Leu	Ile
		115					120					125			
Arg	Lys	Pro	Ser	Ile	Glu	Arg	Asp	Thr	Ala	Ser	Ser	His	Tyr	Leu	Arg
	130					135						140			
Cys	Ser	Pro	Ala	Leu	Asp	Ser	Gly	Ala	Gly	Ser	Ser	Arg	Ser	Asp	Ser
145					150					155					160
Pro	His	Ser	His	His	Thr	His	Gln	Pro	Ser	Ser	Arg	Thr	Val	Gly	Asn
				165					170					175	
Pro	Gly	Gly	Asn	Gly	Gly	Phe	Ser	Pro	Ser	Pro	Ser	Gly	Phe	Ser	Glu
			180					185					190		
Val	Ala	Pro	Pro	Ala	Pro	Pro	Pro	Arg	Asn	Pro	Thr	Ala	Xaa	Ser	Ala
		195					200					205			
Ala	Thr	Pro	Pro	Pro	Pro	Val	Pro	Pro	Thr	Ser	Gln	Ala	Tyr	Val	Lys
	210					215					220				
Arg	Arg	Ser	Pro	Ala	Leu	Asn	Asn	Arg	Pro	Pro	Ala	Ile	Ala	Pro	Pro
225					230					235					240
Thr	Gln	Arg	Gly	Asn	Ser	Pro	Val	Ile	Thr	Gln	Asn	Gly	Leu	Lys	Asn
				245					250					255	
Pro	Gln	Gln	Gln	Leu	Thr	Gln	Gln	Leu	Lys	Ser	Leu	Asn	Leu	Tyr	Pro
			260					265					270		
Gly	Gly	Gly	Ser	Gly	Ala	Val	Val	Glu	Pro	Pro	Pro	Pro	Tyr	Leu	Ile
		275					280						285		
Gln	Gly	Gly	Ala	Gly	Gly	Ala	Ala	Pro	Pro	Pro	Pro	Pro	Pro	Ser	Tyr
	290					295						300			

Thr Ala Ser Met Gln Ser Arg Gln Ser Pro Thr Gln Ser Gln Gln Ser
 305 310 315 320
 Asp Tyr Arg Lys Ser Pro Ser Ser Gly Ile Tyr Ser Ala Thr Ser Ala
 325 330 335
 Gly Ser Pro Ser Pro Ile Thr Val Ser Leu Pro Pro Ala Pro Leu Ala
 340 345 350
 Lys Pro Gln Pro Arg Val Tyr Gln Ala Arg Ser Gln Gln Pro Ile Ile
 355 360 365
 Met Gln Ser Val Lys Ser Thr Gln Val Gln Lys Pro Val Leu Gln Thr
 370 375 380
 Ala Val Ala Arg Gln Ser Pro Ser Ser Ala Ser Ala Ser Asn Ser Pro
 385 390 395 400
 Val His Val Leu Ala Ala Pro Pro Ser Tyr Pro Gln Lys Ser Ala Ala
 405 410 415
 Val Val Gln Gln Gln Gln Gln Ala Ala Ala Ala His Gln Gln Gln
 420 425 430
 His Gln His Gln Gln Ser Lys Pro Pro Thr Pro Thr Thr Pro Pro Leu
 435 440 445
 Val Gly Leu Asn Ser Lys Pro Asn Cys Leu Glu Pro Pro Ser Tyr Ala
 450 455 460
 Lys Ser Met Gln Ala Lys Ala Ala Thr Val Val Xaa Gln Gln Gln Gln
 465 470 475 480
 Gln Gln Gln Gln Gln Gln Val Gln Gln Gln Gln Val Gln Gln Gln Gln
 485 490 495
 Gln Gln Gln Gln Gln Gln Leu Gln Ala Leu Arg Val Leu Gln Ala Gln
 500 505 510
 Ala Gln Arg Glu Arg Asp Gln Arg Glu Arg Glu Arg Asp Gln Gln Lys
 515 520 525
 Leu Ala Asn Gly Asn Pro Gly Arg Gln Met Leu Pro Pro Pro Pro Tyr
 530 535 540
 Gln Ser Asn Asn Asn Asn Asn Ser Glu Ile Lys Pro Pro Ser Cys Asn
 545 550 555 560
 Asn Asn Asn Ile Gln Ile Ser Asn Ser Asn Leu Ala Thr Thr Pro Pro
 565 570 575
 Ile Pro Pro Ala Lys Tyr Asn Asn Asn Ser Ser Asn Thr Gly Ala Asn
 580 585 590
 Ser Ser Gly Gly Ser Asn Gly Ser Thr Gly Thr Thr Ala Ser Ser Ser
 595 600 605

Thr	Ser	Cys	Lys	Lys	Ile	Lys	His	Ala	Ser	Pro	Ile	Pro	Glu	Arg	Lys		
610						615					620						
Lys	Ile	Ser	Lys	Glu	Lys	Glu	Glu	Glu	Arg	Lys	Glu	Phe	Arg	Ile	Arg		
625					630					635					640		
Gln	Tyr	Ser	Pro	Gln	Ala	Phe	Lys	Phe	Phe	Met	Glu	Gln	His	Ile	Glu		
				645					650					655			
Asn	Val	Ile	Lys	Ser	Tyr	Arg	Gln	Arg	Thr	Tyr	Arg	Lys	Asn	Gln	Leu		
			660					665					670				
Glu	Lys	Glu	Met	His	Lys	Val	Gly	Leu	Pro	Asp	Gln	Thr	Gln	Ile	Glu		
		675					680					685					
Met	Arg	Lys	Met	Leu	Asn	Gln	Lys	Glu	Ser	Asn	Tyr	Ile	Arg	Leu	Lys		
	690					695					700						
Arg	Ala	Lys	Met	Asp	Lys	Ser	Met	Phe	Val	Lys	Leu	Lys	Pro	Ile	Gly		
705					710					715					720		
Val	Gly	Ala	Phe	Gly	Glu	Val	Thr	Leu	Val	Ser	Lys	Ile	Asp	Thr	Ser		
				725					730					735			
Asn	His	Leu	Tyr	Ala	Met	Lys	Thr	Leu	Arg	Lys	Ala	Asp	Val	Leu	Lys		
		740						745					750				
Arg	Asn	Gln	Val	Ala	His	Val	Lys	Ala	Glu	Arg	Asp	Ile	Leu	Ala	Glu		
		755					760					765					
Ala	Asp	Asn	Asn	Trp	Val	Val	Lys	Leu	Tyr	Tyr	Ser	Phe	Gln	Asp	Lys		
	770					775					780						
Asp	Asn	Leu	Tyr	Phe	Val	Met	Asp	Tyr	Ile	Pro	Gly	Gly	Asp	Leu	Met		
785					790					795					800		
Ser	Leu	Leu	Ile	Lys	Leu	Gly	Ile	Phe	Glu	Glu	Glu	Leu	Ala	Arg	Phe		
			805						810					815			
Tyr	Ile	Ala	Glu	Val	Thr	Cys	Ala	Val	Asp	Ser	Val	His	Lys	Met	Gly		
		820						825					830				
Phe	Ile	His	Arg	Asp	Ile	Lys	Pro	Asp	Asn	Ile	Leu	Ile	Asp	Arg	Asp		
		835					840					845					
Gly	His	Ile	Lys	Leu	Thr	Asp	Phe	Gly	Leu	Cys	Thr	Gly	Phe	Arg	Trp		
	850					855					860						
Thr	His	Asn	Ser	Lys	Tyr	Tyr	Gln	Glu	Asn	Gly	Asn	His	Ser	Arg	Gln		
865					870					875					880		
Asp	Ser	Met	Glu	Pro	Trp	Glu	Glu	Tyr	Ser	Glu	Asn	Gly	Pro	Lys	Pro		
				885					890					895			
Thr	Val	Leu	Glu	Arg	Arg	Arg	Met	Arg	Asp	His	Gln	Arg	Val	Leu	Ala		
			900					905					910				

His Ser Leu Val Gly Thr Pro Asn Tyr Ile Ala Pro Glu Val Leu Glu
 915 920 925
 Arg Ser Gly Tyr Thr Gln Leu Cys Asp Tyr Trp Ser Val Gly Val Ile
 930 935 940
 Xaa Tyr Glu Met Leu Val Gly Gln Pro Pro Phe Leu Ala Asn Ser Pro
 945 950 955 960
 Leu Glu Thr Gln Gln Lys Val Ile Asn Trp Glu Lys Thr Leu His Ile
 965 970 975
 Pro Pro Gln Ala Glu Leu Ser Arg Glu Ala Thr Asp Leu Ile Arg Arg
 980 985 990
 Leu Cys Ala Ser Ala Asp Lys Arg Leu Gly Lys Ser Val Asp Glu Val
 995 1000 1005
 Lys Ser His Asp Phe Phe Lys Gly Ile Asp Phe Ala Asp Met Arg
 1010 1015 1020
 Lys Gln Lys Ala Pro Tyr Ile Pro Glu Ile Lys His Pro Thr Asp
 1025 1030 1035
 Thr Ser Asn Phe Asp Pro Val Asp Pro Glu Lys Leu Arg Ser Asn
 1040 1045 1050
 Asp Ser Thr Met Ser Ser Gly Asp Asp Val Asp Gln Asn Asp Arg
 1055 1060 1065
 Thr Phe His Gly Phe Phe Glu Phe Thr Phe Arg Arg Phe Phe Asp
 1070 1075 1080
 Asp Lys Gln Pro Pro Asp Met Thr Asp Asp Gln Ala Pro Val Tyr
 1085 1090 1095

Val

<210> 9
 <211> 963
 <212> PRT
 <213> Mus musculus

<400> 9
 Glu Val Gln His Ser Ile Asn Arg Lys Gln Ser Trp Lys Gly Ser Lys
 1 5 10 15
 Glu Ser Leu Val Pro Gln Arg His Gly Pro Ser Leu Gly Glu Asn Val
 20 25 30
 Val Tyr Arg Ser Glu Ser Pro Asn Ser Gln Ala Asp Val Gly Arg Pro
 35 40 45
 Leu Ser Gly Ser Gly Ile Ala Ala Phe Ala Gln Ala His Pro Ser Asn
 50 55 60
 Gly Gln Arg Val Asn Pro Pro Pro Pro Gln Val Arg Ser Val Thr
 65 70 75 80
 Pro Pro Pro Pro Pro Arg Gly Gln Thr Pro Pro Pro Arg Gly Thr Thr
 85 90 95

Pro	Pro	Pro	Pro	Ser	Trp	Glu	Pro	Ser	Ser	Gln	Thr	Lys	Arg	Tyr	Ser
			100					105					110		
Gly	Asn	Met	Glu	Tyr	Val	Ile	Ser	Arg	Ile	Ser	Pro	Val	Pro	Pro	Gly
		115					120					125			
Ala	Trp	Gln	Glu	Gly	Tyr	Pro	Pro	Pro	Pro	Leu	Thr	Thr	Ser	Pro	Met
	130					135					140				
Asn	Pro	Pro	Ser	Gln	Ala	Gln	Arg	Ala	Ile	Ser	Ser	Val	Pro	Val	Gly
145				150						155					160
Arg	Gln	Pro	Ile	Ile	Met	Gln	Ser	Thr	Ser	Lys	Phe	Asn	Phe	Thr	Pro
			165					170						175	
Gly	Arg	Pro	Gly	Val	Gln	Asn	Gly	Gly	Gly	Gln	Ser	Asp	Phe	Ile	Val
		180					185						190		
His	Gln	Asn	Val	Pro	Thr	Gly	Ser	Val	Thr	Arg	Gln	Pro	Pro	Pro	Pro
		195					200					205			
Tyr	Pro	Leu	Thr	Pro	Ala	Asn	Gly	Gln	Ser	Pro	Ser	Ala	Leu	Gln	Thr
	210					215					220				
Gly	Ala	Ser	Ala	Ala	Pro	Pro	Ser	Phe	Ala	Asn	Gly	Asn	Val	Pro	Gln
225					230					235					240
Ser	Met	Met	Val	Pro	Asn	Arg	Asn	Ser	His	Asn	Met	Glu	Leu	Tyr	Asn
			245						250					255	
Ile	Asn	Val	Pro	Gly	Leu	Gln	Thr	Ala	Trp	Pro	Gln	Ser	Ser	Ser	Ala
		260						265					270		
Pro	Ala	Gln	Ser	Ser	Pro	Ser	Gly	Gly	His	Glu	Ile	Pro	Thr	Trp	Gln
		275					280						285		
Pro	Asn	Ile	Pro	Val	Arg	Ser	Asn	Ser	Phe	Asn	Asn	Pro	Leu	Gly	Ser
	290					295					300				
Arg	Ala	Ser	His	Ser	Ala	Asn	Ser	Gln	Pro	Ser	Ala	Thr	Thr	Val	Thr
305					310					315					320
Ala	Ile	Thr	Pro	Ala	Pro	Ile	Gln	Gln	Pro	Val	Lys	Ser	Met	Arg	Val
			325						330					335	
Leu	Lys	Pro	Glu	Leu	Gln	Thr	Ala	Leu	Ala	Pro	Thr	His	Pro	Ser	Trp
		340					345						350		
Met	Pro	Gln	Pro	Val	Gln	Thr	Val	Gln	Pro	Thr	Pro	Phe	Ser	Glu	Gly
		355					360					365			
Thr	Ala	Ser	Ser	Val	Pro	Val	Ile	Pro	Pro	Val	Ala	Glu	Ala	Pro	Ser
	370					375					380				
Tyr	Gln	Gly	Pro	Pro	Pro	Pro	Tyr	Pro	Lys	His	Leu	Leu	His	Gln	Asn
385					390					395					400
Pro	Ser	Val	Pro	Pro	Tyr	Glu	Ser	Val	Ser	Lys	Pro	Cys	Lys	Asp	Glu
			405						410					415	
Gln	Pro	Ser	Leu	Pro	Lys	Glu	Asp	Asp	Ser	Glu	Lys	Ser	Ala	Asp	Ser
		420						425					430		
Gly	Asp	Ser	Gly	Asp	Lys	Glu	Lys	Lys	Gln	Ile	Thr	Thr	Ser	Pro	Ile
	435						440					445			
Thr	Val	Arg	Lys	Asn	Lys	Lys	Asp	Glu	Glu	Arg	Arg	Glu	Ser	Arg	Ile
	450				455						460				
Gln	Ser	Tyr	Ser	Pro	Gln	Ala	Phe	Lys	Phe	Phe	Met	Glu	Gln	His	Val
465					470					475					480
Glu	Asn	Val	Leu	Lys	Ser	His	Gln	Gln	Arg	Leu	His	Arg	Lys	Lys	Gln
			485						490					495	
Leu	Glu	Asn	Glu	Met	Met	Arg	Val	Gly	Leu	Ser	Gln	Asp	Ala	Gln	Asp
		500						505					510		
Gln	Met	Arg	Lys	Met	Leu	Cys	Gln	Lys	Glu	Ser	Asn	Tyr	Ile	Arg	Leu
		515					520					525			
Lys	Arg	Ala	Lys	Met	Asp	Lys	Ser	Met	Phe	Val	Lys	Ile	Lys	Thr	Leu
	530				535						540				
Gly	Ile	Gly	Ala	Phe	Gly	Glu	Val	Cys	Leu	Ala	Arg	Lys	Val	Asp	Thr
545					550					555					560

Lys	Ala	Leu	Tyr	Ala	Thr	Lys	Thr	Leu	Arg	Lys	Lys	Asp	Val	Leu	Leu
				565					570					575	
Arg	Asn	Gln	Val	Ala	His	Val	Lys	Ala	Glu	Arg	Asp	Ile	Leu	Ala	Glu
			580					585					590		
Ala	Asp	Asn	Glu	Trp	Val	Val	Arg	Leu	Tyr	Tyr	Ser	Phe	Gln	Asp	Lys
		595					600					605			
Asp	Asn	Leu	Tyr	Phe	Val	Met	Asp	Tyr	Ile	Pro	Gly	Gly	Asp	Met	Met
	610					615					620				
Ser	Leu	Leu	Ile	Arg	Met	Gly	Ile	Phe	Pro	Glu	Asn	Leu	Ala	Arg	Phe
625					630					635					640
Tyr	Ile	Ala	Glu	Leu	Thr	Cys	Ala	Val	Glu	Ser	Val	His	Lys	Met	Gly
				645					650					655	
Phe	Ile	His	Arg	Asp	Ile	Lys	Pro	Asp	Asn	Ile	Leu	Ile	Asp	Arg	Asp
			660					665					670		
Gly	His	Ile	Lys	Leu	Thr	Asp	Phe	Gly	Leu	Cys	Thr	Gly	Phe	Arg	Trp
		675					680					685			
Thr	His	Asp	Ser	Lys	Tyr	Tyr	Gln	Ser	Gly	Asp	His	Pro	Arg	Gln	Asp
	690					695					700				
Ser	Met	Asp	Phe	Ser	Asn	Glu	Trp	Gly	Asp	Pro	Ser	Asn	Cys	Arg	Cys
705					710					715					720
Gly	Asp	Arg	Leu	Lys	Pro	Leu	Glu	Arg	Arg	Ala	Ala	Arg	Gln	His	Gln
				725					730					735	
Arg	Cys	Leu	Ala	His	Ser	Leu	Val	Gly	Thr	Pro	Asn	Tyr	Ile	Ala	Pro
		740						745					750		
Glu	Val	Leu	Leu	Arg	Thr	Gly	Tyr	Thr	Gln	Leu	Cys	Asp	Trp	Trp	Ser
		755				760						765			
Val	Gly	Val	Ile	Leu	Cys	Glu	Met	Leu	Val	Gly	Gln	Pro	Pro	Phe	Leu
	770					775					780				
Ala	Gln	Thr	Pro	Leu	Glu	Thr	Gln	Met	Lys	Val	Ile	Ile	Trp	Gln	Thr
785					790					795					800
Ser	Leu	His	Ile	Pro	Pro	Gln	Ala	Lys	Leu	Ser	Pro	Glu	Ala	Ser	Asp
				805					810					815	
Leu	Ile	Ile	Lys	Leu	Cys	Arg	Gly	Pro	Glu	Asp	Arg	Leu	Gly	Lys	Asn
			820					825					830		
Gly	Ala	Asp	Glu	Ile	Lys	Ala	His	Pro	Phe	Phe	Lys	Thr	Ile	Asp	Phe
		835					840					845			
Ser	Ser	Asp	Leu	Arg	Gln	Gln	Ser	Ala	Ser	Tyr	Ile	Pro	Lys	Ile	Thr
	850					855					860				
His	Pro	Thr	Asp	Thr	Ser	Asn	Phe	Asp	Pro	Val	Asp	Pro	Asp	Lys	Leu
865					870					875					880
Trp	Ser	Asp	Gly	Ser	Glu	Glu	Glu	Asn	Ile	Ser	Asp	Thr	Leu	Ser	Gly
				885					890					895	
Trp	Tyr	Lys	Asn	Gly	Lys	His	Pro	Glu	His	Ala	Phe	Tyr	Glu	Phe	Thr
			900					905					910		
Phe	Arg	Arg	Phe	Phe	Asp	Asp	Asn	Gly	Tyr	Pro	Tyr	Asn	Tyr	Pro	Lys
		915					920					925			
Pro	Ile	Glu	Tyr	Glu	Tyr	Ile	His	Ser	Gln	Gly	Ser	Glu	Gln	Gln	Ser
	930					935					940				
Asp	Glu	Asp	Asp	Gln	His	Thr	Ser	Ser	Asp	Gly	Asn	Asn	Arg	Asp	Leu
945					950					955					960
Val	Tyr	Val													